U.S.DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

U.S.DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
As a Cooperating Agency pursuant to 40 CFR Part 1501.6(a)(1)

FINAL
ENVIRONMENTAL IMPACT STATEMENT

LOS ANGELES INTERNATIONAL AIRPORT
PROPOSED MASTER PLAN IMPROVEMENTS
Los Angeles, Los Angeles County, California

This Final Environmental Impact Statement (EIS) assesses the potential environmental impacts of the proposed Los Angeles International Airport Master Plan under four so-called "build" alternatives, as well as the No Action Alternative. The common features proposed under the four "build" alternatives include relocation of runways; construction of new taxiways and runway extensions; construction of new terminal buildings, parking garages, and a consolidated rent-a-car facility; construction of a direct connection to I-405; construction of new and relocated air cargo and maintenance facilities and roads; construction of an automated people mover system; connectivity of the airport to the Metro Green Line; and land acquisition. In addition, two of the alternatives would include construction of an additional runway on either the north or south side of the airport.

Each of the various alternatives, including the No Action Alternative, has been assessed in detail and the potential impacts are disclosed within this document. This Final EIS has been prepared pursuant to the following public law requirements: Section 102(2)(c) of the National Environmental Policy Act of 1969 and Section 509(b)(5) of the Airport and Airway Improvement Act of 1962,as amended.

VOLUME A
Appendices A-1, A-2, A-3, and A-4

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JANUARY 2005

Appendix
LAX Master Plan Final EIS

A-3d. California Coastal Commission Staff Report and Letter of Concurrence

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W 7a and 7b

STAFF REPORT AND RECOMMENDATION

ON CONSISTENCY CERTIFICATION

AND CONSISTENCY DETERMINATION

Consistency Certification No.	**CC-061-04**
File Date:	8/10/2004
3 Months:	11/10/2004
6 Months:	2/10/2005
Consistency Determination No.	**CD-062-04**
File Date:	8/10/2004
60th Day:	10/9/2004
75th Day:	10/24/2004
Extended through:	11/20/2004
Staff	LJS-SF
Commission Meeting:	11/17/2004

APPLICANT (CC-061-04): Los Angeles World Airports

PROJECT LOCATION: Los Angeles International Airport, City of Los Angeles

PROJECT DESCRIPTION: Airfield improvements and modifications (Exhibits 1-3, and 7)

FEDERAL AGENCY (CD-062-04): Federal Aviation Administration

PROJECT LOCATION: El Segundo Dunes portion of Los Angeles International Airport

PROJECT DESCRIPTION: Installation of navigation aids and related infrastructure to support the proposed realignment and lengthening of the two north airfield runways (Exhibits 1-3, and 12)

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EXECUTIVE SUMMARY

Los Angeles World Airports (LAWA) has submitted a consistency certification for airfield improvements and modifications at Los Angeles International Airport (LAX) just inland of the coastal zone. The Federal Aviation Administration (FAA) has submitted a consistency determination for reconfiguration of navigation aids in the El Segundo Dunes area of LAX within the the coastal zone. Because the projects covered in the two submittals are interconnected, the Commission staff determined that a single staff report would more clearly describe the overall LAX redevelopment plan and the LAWA and FAA projects. The combined staff report evaluates the consistency of LAWA's proposed development projects at LAX with the California Coastal Management Program (CCMP), and evaluates whether the FAA's navigation aid project is consistent (to the maximum extent practicable) with the CCMP.

The planning for proposed improvements at LAX began ten years ago and culminated in the Los Angeles City Council approval of the preferred project – Alternative D – on October 20, 2004.

The proposed LAWA and FAA projects are designed to: (1) expand and modernize terminal and parking facilities to address passenger and cargo growth occurring at LAX since completion of its last major improvement project in 1984; and (2) improve safety and efficiency of aircraft operations at LAX by realigning runways and taxiways on the north and south airfields. The proposed LAWA and FAA projects are designed to bring LAX facilities into conformance with federal statutes and FAA regulations, advisories, and standards that govern the design of runways and taxiways, and the placement and configuration of navigation aids.

The proposed LAWA and FAA projects would be implemented in three phases extending from 2004 through 2014. The parking structure is currently scheduled for Phase 1 in the years 2004 through 2005. The proposed modifications to the north airfield runways and the reconfiguration of the associated navigation aids in the El Segundo Dunes are currently scheduled for Phase 3 in the years 2012 through 2014.

The Commission's review focuses primarily on potential coastal zone effects from the proposed modifications to the two north airfield runways (e.g., lengthening, realigning, and adding taxiways) and the reconfiguration of their associated navigation aids in the El Segundo Dunes. This review also focuses on the adequacy of mitigation measures proposed for unavoidable impacts to environmentally sensitive habitat (ESHA) in the El Segundo Dunes, and on the adequacy of water quality protection measures.

Proposed development in disturbed wetlands (at the western end of the north airfield inland of the coastal zone boundary) holds the potential to adversely affect coastal zone wildlife that could be dependent upon these wetlands. However, these disturbed wetlands are located outside the coastal zone, have no hydrological connection to the coastal zone, and do not provide habitat significantly beneficial to or required by fish or wildlife present in the coastal zone. In addition, to the extent the wetland allowable use test may be applicable, the proposed fill would be an allowable use (incidental public service), the least environmentally damaging alternative, and unavoidable project impacts would be adequately mitigated. Thus, the project is consistent with the wetland policy (Section 30233) of the Coastal Act.

The proposed reconfiguration of existing navigation aids in the El Segundo Dunes would adversely affect environmentally sensitive habitat and conflict with the allowable use test of Section 30240 of the Coastal Act. The 307-acre El Segundo Dunes is only a remnant of a once much larger dune ecosystem. However, it continues to support southern foredune, southern dune scrub, valley needlegrass grassland, disturbed dune scrub/foredune, and non-native grassland/ruderal plant communities. Also within the Dunes is a 203-acre Habitat Restoration Area (HRA) which includes approximately 150 acres of occupied coastal buckwheat habitat critical to the survival of the federally endangered El Segundo blue butterfly.

Approximately 1.5 acres of El Segundo Dunes ESHA will be affected by the construction of new navigation aids and their related support facilities. Of this area, 0.77 acres are located in the HRA, and within this area 0.24 acres of habitat occupied by the El Segundo blue butterfly would be affected. The FAA will provide mitigation for the 1.5-acre impact at a ratio of 2:1 and restore

3.0 acres of coastal dune habitat. Approximately 1.4 acres of El Segundo Dunes ESHA will be affected by the removal or burial of concrete pads that currently support navigation aids proposed for removal. The FAA will provide mitigation for the 1.4-acre impact on dune habitat from the removal or retention of these pads at a ratio of 2:1 and restore 2.8 acres of coastal dune habitat.

The FAA's submittal included the final *Los Angeles/El Segundo Dunes Habitat Restoration Plan*. Modifications and changes to the draft *Habitat Restoration Plan* made at the suggestion of the Commission staff satisfactorily resolved several coastal resource issues, and included expanding the amount of mitigation acreage, improving the methodology for determining success of restoration activities, and expanding the area to be planted with coast buckwheat. With the successful implementation of the *Habitat Restoration Plan*, significant disruption of habitat values in the El Segundo Dunes ESHA will not occur. Further, with the proposed restoration of 5.8 acres of coastal dune habitat at Subsites 22 and 23 and at sites along the linear tracks of the abandoned navigation aids, the biological health of the dunes, and in particular coast buckwheat plants that support the endangered El Segundo blue butterfly, will be enhanced over present conditions.

The allowable use policy of Section 30240(a) states that within ESHAs, "only uses dependent on those resources shall be allowed within those areas." The El Segundo Dunes is designated as an environmentally sensitive habitat and the proposed reconfiguration of the existing navigation aids is not a type of land use or development that is dependent on these coastal dune resources. The proposed installation of the new navigation aids and associated roads is therefore not consistent with the allowable use test of Section 30240(a) of the Coastal Act. As a result, the FAA is asserting that the proposed project is consistent to "the maximum extent practicable" with Section 30240(a). This determination hinges on whether ". . . compliance is prohibited based upon the requirements of existing law applicable to the Federal agency's operations." In reviewing the FAA's references to federal statute, regulations, and FAA advisories, there is a basis in the federal statutes that compel LAWA to comply with the FAA advisories and standards for the design of runways and taxiways at LAX. The proposed realignment of the two runways in the north airfield at LAX would mandate the reconfiguration of the existing navigation aids in the El Segundo Dunes that support flight operations on those runways. The FAA has designed the reconfiguration project to minimize effects on environmentally sensitive habitat and will implement a habitat restoration plan that will restore and enhance coastal dune habitat prior to the start of project construction.

Thus, given the mandate for LAWA to comply with FAA standards for runway design, the FAA requirement to provide navigation aids for runway operations, a navigation aid reconfiguration plan that minimizes impacts to environmentally sensitive coastal dune habitat, and FAA's commitment to implement the *El Segundo Dunes Habitat Restoration Plan*, the FAA project is consistent to the maximum extent practicable with the environmentally sensitive habitat policy (Section 30240) of the Coastal Act.

The LAWA/FAA submittals summarize potential impacts to coastal zone water quality from proposed construction and operational developments at LAX. The proposed "Master Plan Commitment HWQ-1 – Conceptual Drainage Plan" is the primary vehicle for addressing, reducing, and mitigating potential water quality impacts from stormwater and dry-weather runoff into Santa Monica Bay or San Pedro Bay. While it is clear that LAWA intends to implement a wide-ranging suite of water quality protection measures in concert with its Alternative D projects, and that the FAA intends to implement BMPs for navigation aids construction in the El Segundo Dunes (which will be an element of the HWQ-1 plan), the foundation of the LAX water quality control program – the HWQ-1 drainage plan – has yet to be developed.

LAWA and the FAA have agreed as a part of this consistency certification and consistency determination to submit the draft and final versions of the HWQ-1 drainage plan to the Commission staff for its review and comment. With this commitment, and in conjunction with the water quality protection commitments contained in the consistency certification and consistency determination, the project is consistent with the water quality protection policies (Sections 30231 and 30232) of the Coastal Act.

Existing coastal access routes in the immediate project area would be maintained and proposed developments at LAX outside the coastal zone would not affect existing coastal access and recreational facilities at nearby Vista del Mar Park, Dockweiler State Beach, the South Bay Bike Trail, and along surface streets providing access to and along the shoreline. The current alignment of Pershing Drive would not be affected and vehicle, bicycle, and pedestrian access along Pershing Drive would remain unchanged. The proposed employee parking structure at the west end of the airport would increase the number of vehicles using Pershing Drive, which is a vehicle and bicycle route inland of and parallel to the shoreline and which provides access to the coastal zone. LAWA's submittal outlines the numerous street and intersection improvements and the public transportation enhancements that would be implemented to mitigate potential adverse traffic impacts generated by the parking facility.

A number of uncertainties complicate accurately predicting impacts to coastal access, including development inland of the coastal zone, and a facilities construction schedule that extends through the year 2014. The Commission has no control over future increases in traffic volumes on major surface arterials providing access to the coast in this area as a result of: (1) other traffic-generating projects in the LAX area that could be developed over the next ten years; (2) the growth in LAX-related traffic that would occur under a No Action/No Project alternative; or (3) the outcome of inexorable population and economic growth in the region with its concurrent increase in vehicle trips in the LAX area. Based on the available information and commitments made at this time, as it is implemented over the next ten years in conjunction with the aforementioned surface transportation measures, the project will not adversely impact coastal access routes in the areas adjacent to LAX significantly beyond that which can be reasonably expected to occur in this area absent the proposed project. In addition, the proposed reconfiguration of and improvements to the navigation aids system located in the El Segundo Dunes will not affect public access to and along this section of the coastal zone. The project is

therefore consistent with the public access policies (Sections 30210, 30211, 30212, 30214, and 30252) of the Coastal Act.

The only element of the Alternative D project that could be visible from the coastal zone is the proposed four-story employee parking garage southeast of the intersection of Pershing Drive and World Way West. However, this facility would only be visible from Pershing Drive and would not be visible from coastal recreational areas at Dockweiler State Beach, Vista del Mar Park, and the South Bay Bike Trail. The view eastward from Pershing Drive across the western end of the LAX complex would not be significantly altered by the parking garage, whose presence would be consistent with the existing aviation-related development in this area. The visibility of the reconfigured navigation aids from coastal zone vantage points is minimal, would be similar in nature to the existing aids, and would not adversely affect coastal views to or along the shoreline from points west of the El Segundo Dunes. Therefore, the proposed project is consistent with the visual resource policy (Section 30251) of the Coastal Act.

LAWA's and FAA's submittals include a commitment that in the event that previously unidentified cultural, archaeological, and/or paleontological resources are discovered during construction activities, implementation of mitigation measures described in their respective submittals and in the Final EIS/EIR for the projects would eliminate the potential for adverse impacts to these resources. Mitigation measures address cultural resource discovery, monitoring, excavation and recovery, administration, reporting, curation, and notification. Additional mitigation measures address paleontological resource discovery, monitoring, collection, and reporting. With these measures, the proposed project would not adversely affect cultural resources, and the projects are consistent with the cultural resource policy (Section 30244) of the Coastal Act.

STAFF NOTE/PROCEDURES:

In this combined staff report and recommendation, the Commission is reviewing both a consistency certification (CC-061-04) submitted by Los Angeles World Airports (LAWA) and a consistency determination (CD-062-04) submitted by the Federal Aviation Administration (FAA) for proposed development at Los Angeles International Airport (LAX)(**Exhibits 1-3**). The consistency certification was prepared by LAWA to evaluate the consistency of its proposed development projects at LAX inland of the coastal zone with the California Coastal Management Program (CCMP)(**Exhibits 4 and 5**). The consistency determination was prepared by the FAA to evaluate whether its proposed reconfiguration of navigation aids located in the coastal zone within the El Segundo Dunes is consistent (to the maximum extent practicable) with the CCMP (**Exhibits 4 and 5**). Because LAWA is not proposing – at this time – any development within the coastal zone, there are no coastal development permit applications currently before the Commission. However, LAWA expects to submit at a future date one or more coastal development permit applications to the Commission for projects within the El Segundo Dunes. These projects will serve as mitigation for development impacts to sensitive habitat located inland of the coastal zone within the western airfield area at LAX.

Because the projects covered in the two submittals are interconnected, the Commission staff determined that a single staff report would more clearly and efficiently describe the overall LAX redevelopment plan and the LAWA and FAA projects. This staff report contains a separate motion, recommendation, and resolution for the consistency certification and consistency determination, and the Commission will need to act separately on each submittal and in the order provided. Due to statutory time restrictions, the Commission must act on the FAA consistency determination at the November 2004 meeting, or the submittal will be "deemed concurred" as of November 20, 2004 (unless the FAA extends the time deadline). The Commission is not required to act on the LAWA consistency certification at this meeting, and could postpone action until the January 2005 meeting given that the six-month review period extends to February 10, 2005. However, the Commission staff is recommending that the Commission act on both items together (i.e., at the November 2004 meeting).

Even though the proposed reconfiguration of the existing navigation aids is not scheduled for construction until the year 2012, the FAA seeks Commission action now to enable the FAA to complete its Environmental Impact Statement and sign a Record of Decision for the overall LAX redevelopment project. Given this requirement, the FAA, LAWA, and Commission staff agreed that it was in the public interest to act on the LAWA consistency certification at the same time as the consistency determination. This decision was reached notwithstanding the fact that the north airfield runway realignment (which triggers the need for reconfiguration of the navigation aids) is also not scheduled for construction until the year 2012. The Commission staff notes that while it is rare for the Commission to act on a federal consistency determination and/or certification for an action eight years in the future, it is not unprecedented or out of the realm of airport planning time frames.

In this regard, the staff notes that should the proposed projects change in a significant manner in the time period up to the year 2012, a revised consistency determination and/or certification would need to be submitted to the Commission by the FAA and LAWA, respectively. Similarly, should there be a substantial modification to the environmentally sensitive habitats in the El Segundo Dunes in the time period leading up to 2012, the Commission has the ability, under the federal consistency regulations (15 CFR Section 930.46 (consistency determination) and Section 930.66 (consistency certification)), to re-open the subject consistency determination and/or certification in order to determine whether the projects remain consistent with the CCMP. Should there be changes in navigation aid technology during the time period up to the year 2012 that would eliminate the need to install navigation aids in the El Segundo Dunes, or that would provide for a modified navigation aid plan that creates fewer adverse effects to coastal dune habitat, the Commission would have the ability under the same federal consistency regulations cited above to re-open its concurrence in order to determine whether the project can feasibly be modified to use new technologies and/or systems in order to further reduce the adverse effects to coastal dune habitat. The Commission also has the ability under the federal consistency regulations (15 CFR Section 930.45 (consistency determination) and Section 930.65 (consistency certification)) to re-open a previous concurrence – after project construction commences –

should it determine that impacts to coastal resources from a project are substantially different from those expected at the time of concurrence.

STAFF SUMMARY AND RECOMMENDATION:

I. Project Background.

The vast majority of Los Angeles International Airport (LAX) is located inland of the coastal zone boundary, which parallels Pershing Drive; only the El Segundo Dunes portion of LAX, located west of Pershing Drive, is situated within the coastal zone (**Exhibits 4 and 5**). The only component of the LAX facilities improvements program that would be located within the coastal zone is the reconfiguration of navigation aids currently located in the El Segundo Dunes at the western end of the northern airfield runways. This component is a Federal Aviation Administration (FAA) project and the subject of CD-062-04. The larger LAX improvements program is sponsored by Los Angeles World Airports (LAWA), an agency of the City of Los Angeles, and is the subject of CC-061-04. (LAWA would also submit coastal development permit applications to the Commission at a future date for any mitigation projects that would occur within the coastal zone in the El Segundo Dunes. These projects would mitigate impacts from LAX redevelopment projects which would affect environmentally sensitive habitat at sites within the western LAX airfield area, but inland of the coastal zone boundary.)

LAWA's consistency certification provides a summary history of the currently proposed LAX redevelopment project, also known as Alternative D:

> *The planning for, and evaluation of, improvements proposed for Los Angeles International Airport (LAX) have been underway for approximately a decade. This work effort occurred within the context of formulating a Master Plan for the future of LAX, specifically at the year 2015. Three "build" alternatives - Alternatives A, B, and C - for the LAX Master Plan, and a "no build" alternative - the No Action/No Project Alternative - were addressed in a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) published in January 2001. In response to the terrorist attacks that occurred on September 11, 2001, the newly elected Mayor of Los Angeles directed the Los Angeles Board of Airport Commissioners to develop a new fifth alternative for the LAX Master Plan that, consistent with public comment calling for a regional approach alternative, would accommodate passenger and cargo activity levels at LAX that would approximate those of the No Action/No Project Alternative, have fewer environmental impacts than the No Action/No Project Alternative and would be designed to enhance airport safety and security. That fifth alternative - Alternative D, the Enhanced Safety and Security Plan - was developed in consultation with LAWA staff and the FAA, and was addressed in the Supplement to the Draft EIS/EIR published in July 2003. Alternative D represents LAWA's staff-preferred alternative, as presented of the Final EIR published in April 2004.*

Exhibit 6 shows the existing (1997) layout at LAX, and **Exhibit 7** illustrates the proposed "*Alternative D - 2015 Enhanced Safety and Security Plan*" layout for LAX.

On May 10, 2004, representatives from FAA, LAWA, and Commission staff discussed the proposed project and the applicable federal consistency review requirements; all parties agreed that the appropriate review mechanism would be a consistency certification from LAWA to examine potential effects on the coastal zone from Alternative D, and a consistency determination from the FAA to examine potential effects on the coastal zone from the navigation aids reconfiguration project. LAWA reported that the Final EIR for the project was published in April 2004, and both agencies expected that the City of Los Angeles Planning Commission, Airport Commission, and City Council would take action on the proposed Alternative D project by the end of September 2004. FAA stated at that time that should the City complete its reviews and the Coastal Commission take action on the FAA consistency determination, the FAA hoped to then publish a Record of Decision and the Final EIS for the project in November 2004.

In June 2004, the City Planning and Airport Commissions voted to approve Alternative D and at the same time voted to approve a "specific plan" proposal that splits the Alternative D project into two phases. The first phase includes relocating the south airfield runways, a consolidated rental car facility, an elevated tram, a transportation center to link the tram with the existing light-rail Green Line, an employee parking facility, and additional gates at the international terminal. The second phase includes a remote passenger check-in facility, demolition of three passenger terminals on the airport's north side and parking garages in the central terminal area, construction of a new north terminal, relocation of the north airfield runways, and reconfiguration of the western navigation aids serving those runways. An oversight panel, airport commissioners, and the City Council would review the second-phase projects after additional security, noise, traffic, and air pollution studies are completed. The June 2004 approvals by the City Planning and Airport Commissions allowed the Alternative D project to next go before the Los Angeles County Airport Land Use Commission and, subsequently, the Los Angeles City Council.

On August 25, 2004, the County Airport Land Use Commission ruled that the Alternative D plan was inconsistent with the County's 1991 land use plan, because it would expose nearby communities to more noise and safety risks than allowed under the land use plan. The immediate effects of that action were two-fold: (1) the proposed Alternative D project would need to receive a two-thirds vote of the Los Angeles City Council to be approved, rather than a simple majority of the 15-member Council; and (2) final City Council action on Alternative D would be delayed due to a requirement that the Council notify the County 45 days in advance that it planned to override the Land Use Commission's decision. The City of Los Angeles City Council Planning and Land Use Management Committee and the Commerce Committee approved the Alternative D plan on October 6 and October 7, 2004, respectively. The full Los Angeles City Council approved the Alternative D plan on October 20 by a 12 to 3 vote. The final vote by the City Council is scheduled for December 7, which complies with the aforementioned 45-day notice requirement to the County Airport Land Use Commission **(Exhibit 8)**.

II. Project Description.

This section of the report will review the primary purpose of the proposed LAX project; examine the current conditions of runways, taxiways, and navigation aids at LAX; review applicable federal statutes and Federal Aviation Administration regulations regarding the design and function of runways, taxiways, and navigation aids; and describe the proposed improvements and modifications to runways, taxiways, and navigation aids at LAX. This review is necessary in order to understand: (1) the reasons for the proposed reconfiguration of navigation aids in the coastal zone (the subject of the consistency determination by the FAA); (2) how that project element is necessary due to the proposed modifications to the two runways in the north airfield at LAX; (3) how those modifications were developed from the goal of improving safety and efficiency of aircraft operations at LAX (the subject of the consistency certification by LAWA); and (4) the basis for the FAA's assertion as to how its proposed project is consistent "to the maximum extent practicable" with the California Coastal Management Program.

A. Purpose. The vast majority of the improvements proposed for LAX under the proposed Alternative D would occur outside the coastal zone, as noted above in Section I and as illustrated in **Exhibits 5 and 7**. The only existing development within the coastal zone on LAX property is Pershing Drive, existing navigational aids and associated service roads in the El Segundo Dunes, and abandoned roadways that served residential structures formerly located within the Dunes **(Exhibits 4 and 5)**. The proposed LAX improvement and modification plan presented in Alternative D is designed to expand and modernize terminal and parking facilities to address the passenger and cargo growth which has occurred at LAX since completion of its last major improvement project in 1984, and to improve safety and efficiency of aircraft operations at LAX by realigning runways and taxiways on the north and south airfields.

The Final LAX Master Plan (April 2004) states that:

> *Alternative D would be designed to serve 78 million annual passengers (MAP), the level of passenger activity identified by Southern California Association of Governments (SCAG) for LAX in the 2001 Regional Transportation Plan (RTP). Alternative D would encourage the development and use of regional airports to serve local demand by constraining the facility capacity at LAX to approximately the same aviation activity levels identified in the No Action/No Project Alternative. In the short-term LAX would continue to serve as the region's predominant international airport for passenger and cargo operations due to the specialized facilities developed over time to serve these functions.*

B. Existing Conditions at LAX.

1. Aircraft. The consistency determination first reviews the type of aircraft that currently operate at LAX:

> *Airplanes operating at LAX today are much larger than the airplanes in service at the time of its current design. The existing airfield at LAX was originally designed to serve the first*

commercial passenger jet aircraft, such as the Boeing 707 and Douglas DC-8. The wingspans of these aircraft are 131 feet and 143 feet, respectively. In its role as an international gateway, LAX became one of the first airports served by the original Boeing 747 and its current successor, the 747-400. The wingspans of these aircraft range from 195 to 231 feet. Larger aircraft, with wingspans ranging between 223 and 232 feet, also occasionally use LAX. Thus, the current runway separations do not allow the two pairs of parallel runways to operate independently from one another [emphasis added].

2. Runways. Next, the consistency determination reports that the existing layout of runways at LAX contributes to safety hazards and operational inefficiencies:

The existing airfield requires landing aircraft to exit the outboard runways onto high-speed taxiways that provide an unimpeded route to a neighboring parallel runway on which simultaneous aircraft departures are occurring. The existing airfield has four full-length taxiways providing east-west routes for aircraft to maneuver on the airfield, none of which are between either pair of runways.

According to the LAX Master Plan EIS/EIR, the number and configuration of the existing four runways are inadequate to serve current and projected demand. Only one of the four runways (Runway 25R on the south airfield) is sufficiently long to serve the largest aircraft when fully loaded during adverse weather conditions (hot days with little wind). Aircraft departing from gates in the north airfield often need to use Runway 25R and endure long taxi distance with significant airfield congestion along the way. The difference in runway lengths between the north and south airfield complexes creates an imbalance in operations by preventing air traffic from being evenly distributed.

The north pair of runways (Runways 24L/6R and 24R/6L) has a separation distance of 700 feet between the two runways, and the south pair of runways (Runways 25L/7R and 25R/7L) has a runway separation distance of 750 feet. These runway separations do not meet current FAA design standards so, to operate safely, FAA requires that each pair be operated dependently, with greater aircraft separations and hold times to allow safety margins for weather and wake turbulence. This dependent operation reduces the number of planes that can use the runways at any given time and thus limits the airfield capacity. The runways are currently too closely spaced to allow center taxiways so aircraft can clear the runways sooner. Therefore, following aircraft are prohibited from landing at shorter intervals, and airfield congestion and risk of runway incursions increases. A runway incursion is defined by the FAA as any occurrence in the airport runway environment involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of required separation with an aircraft taking off, intending to take off, landing, or intending to land. [emphasis added]

3. Taxiways. The current system of taxiways at LAX is then reviewed:

The taxiway system, another key component to airfield operations and a factor in determining airfield safety and efficiency, provides the link between runways and the terminal gates. At busy airports, the airport throughput capacity, to a large degree, is a function of how efficiently the taxiway system permits the flow of aircraft movement between the runways and the terminal gates. Two critical operational factors must be considered in determining taxiway system requirements: aircraft size and the level of aircraft demand throughout the day.

As discussed in Chapter 3 of the Draft LAX Master Plan, as airport activity increases, taxilane and taxiway congestion will worsen. Based on the design of the existing taxiway system, when departure queues occupy the outer taxiway in the terminal area, the flow to and from concourses on the north and south complexes is limited to a single taxiway. In addition, single cul-de-sac taxilanes between adjacent terminals limit flow to a single direction at all times. Aircraft that push-back to the inner taxiway block other aircraft traveling along the taxiway. These design and operational conditions cause congestion, especially during peak periods on the south complex, when arrivals and departures are taxiing to and from their gates simultaneously.

The existing taxiway system at LAX can accommodate FAA Aircraft Design Group V, with some restrictions. Design Group V includes aircraft with a wingspan up to 213 feet and includes the Boeing 747-400, the largest aircraft currently operating at the airport.

As activity increases at LAX and a greater proportion of the fleet becomes Design Group V aircraft, the potential for taxiway congestion will increase due to . . . existing taxiway and taxilane restrictions (e.g., impaired wing clearance, aircraft size restrictions, insufficient clearance between aircraft and ground vehicles, insufficient distance between runway centerline and parallel taxiway centerline) . . . Heavy aircraft are expected to make up over 30 percent of operations in the 2015 design day schedule and over 40 percent of operations in the peak hour in 2015. Future design of the taxiway/taxilane system and terminal area can eliminate these restrictions.

4. Navigation Aids. The existing system of navigation aids at LAX is next examined in the consistency determination:

The ALS [Approach Lighting System] *is a standard configuration of aeronautical ground lights in the approach area to the runway that provides the basic means to transition from instrument flight to visual flight for landing. Operational requirements dictate the sophistication and configuration of the approach light system for a particular runway. As part of an precision instrument runway such as Runway 6R, the ALS is a configuration of signal lights starting at the landing threshold and extending into the approach area along the extended runway centerline to a distance of 2,400 feet and includes sequenced flashing lights which appear to the pilot as a ball of light traveling towards the runway at high speed.*

. . .

According to Chapter 3 of the Draft LAX Master Plan, the existing approach lighting systems for LAX's runways provide high lighting intensity for all four west and east flow runways. The approach lighting system on the principal west flow runways, 24R and 25L, is ALSF-2, which is an advanced, high intensity lighting system. All runways, with the exception of 24L/6R, have runway centerline lights. Runways 24R and 25L, the primary arrival runways in west flow, and 7L, one of two primary arrival runways in east flow, also have touch down zone lighting. All runways at LAX also use a precision approach system called the Instrument Landing System (ILS). The ILS's electronic components consist of radio transmitters that guide the aircrafts' alignment with the runway (localizer), descent to the runway (glide slope), and distance from the runway (marker beacon).

Currently, Runway 6R, the runway where proposed NAVAID and ILS realignment would occur within the Los Angeles/El Segundo Dunes and the coastal zone, is equipped with a Category-I ILS and a Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR). The Category-I ILS provides electronic vertical and horizontal guidance with cloud ceiling and visibility approach minimums as low as 200 feet above Runway 6R's touchdown zone elevation and 1,800 feet visibility as reported by Runway Visual Range equipment (RVR). The MASLR ALS is an integral part of the Category-I ILS. When the MASLR is inoperative, the horizontal RVR visibility minimums increase to 4,000 feet. For safety considerations when these higher visibility minimums are in effect, the runway may not be available for landing during meteorological conditions having periods of reduced visibility. Periodic meteorological conditions at LAX during certain times of the year mandates a better ALS [Approach Lighting System].

5. <u>Runway Incursions</u>. The problem of runway incursions is the final topic addressed regarding existing LAX conditions that support the need for airfield modifications and the resulting changes to the navigation aid system:

Another consideration incorporated into the design of the taxiway system proposed under Alternative D is minimizing risks associated with runway incursions. In June 2002, FAA published a study entitled, "FAA Runway Safety Report: Runway Incursion Trends at Towered Airports in the United States – CY 1998-CY 2001." This report identified a total of 1,460 runway incursions out of 268 million airport operations in the U.S. that resulted in three collision and four fatalities over the four years studied. LAX experienced 38 total runway incursions during the period of the FAA study and had an average rate of occurrence of 1.24 incursions per 100,000 operations. Annual runway incursions at LAX totaled 12, 10, 8 and 8, respectively, for the years of 1998 through 2001. The annual rates of runway incursions for the same period marked 1.55, 1.28, 1.02 and 1.08 per 100,000 operations, respectively.

In July 2003, the FAA published the updated Runway Safety Report, which, unlike the pervious version, compiled the data on a fiscal-year basis. This FAA Runway Safety Report

reflects the runway incursion trends for fiscal years 1999 through 2002. The report indicates that the annual runway incursions at LAX totaled 9, 10, 9 and 6, respectively, over the four years studied. The rate of runway incursions at LAX for the same period marked 1.17, 1.28, 1.15 and 0.94 per 100,000 operations, respectively. It is important to note that the discrepancies in the annual runway incursion figures between the 2003 report and the 2002 report resulted because two different measurements were used in compiling data (i.e., fiscal year vs. calendar year).

For comparison purposes, annual incursion rates (per 100,000 operations), over the same five-year period for the Atlanta Hartsfield, Dallas Fort Worth, and Phoenix Sky Harbor Airports are indicated below:

Annual Incursion Rates Per 100,000 Operations				
	Los Angeles International (LAX)	**Atlanta Hartsfield (ATL)**	**Dallas Ft. Worth (DFW)**	**Phoenix Sky Harbor (PHX)**
1998	1.55	0.24	0.54	1.32
1999	1.17-1.28 (1)	0.66	0.81	0.53
2000	1.02-1.28(1)	0.33	0.35	0.94
2001	1.08-1.15(1)	0	0.75	1.65
2002	0.94	0.45	0	1.04

Note: (1) Range includes both calendar-year and fiscal-year data from the three-year period common to both reports references above.

Of these three airports, ATL is the most similar to LAX in terms of operational characteristics, including runway layout and the volume of annual operations. During the same period of time, LAX had four times the average rate of occurrence of runway incursions than ATL, although LAX had approximately 20 percent fewer operations than ATL. LAX ranked first throughout the United States as the airport that had the greatest number of runway incursions during the four-year period (CY1998-CY2001), a total of 38 incursions. LAX was followed by North Las Vegas Airport with 32 incursions, and St. Louis-Lambert International with 31 incursions.

FAA also classifies runway incursions by their relative severity. The highest severity is given to an incursion in which extreme action is needed to avoid a collision or if a collision occurs. Five of the 38 runway incursions at LAX during the period of the 2002 FAA report were in this category; none of the five resulted in a collision.

One of FAA's goals is to raise awareness of runway incursions, identify solutions, and implement strategies to reduce their severity, frequency, and the risk of a runway collision. Airport surface radar technology and airport infrastructure implementation at key airports like LAX are some of the strategies identified by FAA to help solve the problem. LAWA has already implemented improvements to airfield lighting, taxiway marking, runway signage, and has sponsored on-going seminars on airfield familiarization with airport users. However, more improvement is needed.

Because FAA airport design standards have changed over time, certain features of the existing airfield do not meet current standards. These conditions are documented under Federal Aviation Regulations Part 139, available through LAWA. While these conditions do not create an unsafe airfield environment, they do add to airfield congestion as operations increase by imposing slower taxi speeds, which result in an increase in air pollution and aircraft delay. Improvements to runways and terminals at LAX would increase taxiway separations to meet current FAA design standards, as explained in FAA Advisory Circular 150/5300-13, Airport Design. Without the improvements to LAX, airfield safety would not be enhanced, and efficiency of the airfield would not be increased [emphasis added].

C. FAA Regulations and Advisories. The FAA has adopted numerous regulations, advisories, and standards for airport runway and taxiway design, and for the placement, alignment, and configuration of associated navigation aids. These FAA standards exist in the context of the following federal laws and regulations:

United States Code Title 49, Chapter 447, Section 44701 (General requirements) states in part that:

(c) Reducing and eliminating accidents. The Administrator shall carry out this chapter in a way that best tends to reduce or eliminate the possibility or recurrence of accidents in air transportation. However, the Administrator is not required to give preference either to air transportation or to other air commerce in carrying out this chapter.

United States Code Title 49, Chapter 447, Section 44706 (Airport operating certificates) states in part that:

(a) General. The Administrator of the Federal Aviation Administration shall issue an airport operating certificate to a person desiring to operate an airport . . .

(b) Terms. An airport operating certificate issued under this section shall contain terms necessary to ensure safety in air transportation . . . .

The Code of Federal Regulations provides in Title 14 (Federal Aviation Administration), Part 139 (Certification and Operations: Land Airports Serving Certain Air Carriers) the following:

Subpart A – General. Section 139.5. Standards and procedures for compliance with the certification and operations requirements of this part.

Certain requirements prescribed by subparts C and D of this part must be complied with in a manner acceptable to the Administrator. FAA Advisory Circulars contain standards and procedures that are acceptable to the Administrator for compliance with subparts C and D. Some of these advisory circulars are referenced in specific sections of this part. The standards and procedures in them, or other standards

and procedures approved by the Administrator, may be used to comply with those sections.

Subpart D – Operations. Section 139.305(c). Paved areas.

FAA Advisory Circulars in the 150 series contain standards and procedures for the maintenance and configuration of paved areas [i.e., runway, taxiway, loading ramp, parking area] which are acceptable to the Administrator.

The FAA's consistency determination provides the following discussion:

The FAA provides standards for runway, taxiway, and taxilane design, including length, width, separation, radius of turns, layout, and pavement material composition. These standards are published in FAA Advisory Circular 150/5300-13, Airport Design, and are intended to provide for a high degree of safety in any setting. For the most part, the current design and operation of LAX are responsive to FAA Airport Design Standards. However, the size of today's larger aircraft has resulted in the need to employ some special procedures for such aircraft to operate safely on the ground in areas that were originally designed for smaller aircraft.

Current design standards regarding the placement, alignment and configuration of Approach Lighting System (ALS) is prescribed in the FAA Advisory Circular 150/5300-13, Airport Design, Paragraph 605, FAA Order 6850.2A, Change 1, Visual Guidance Lighting Systems and International Civil Aviation Organization's (ICAO) Annex 14, Aerodromes, Volume 1, Aerodromes Design and Operations, paragraph 5.2.3.10. All FAA and ICAO references indicate that the ALS shall be aligned on and about the extended runway centerline.

There are no published guidelines or allowances for modifications to these design standards.

As discussed in Section 4.24.3, Safety in the Final EIS/EIR, the requirements included in the Airport Design Standards are based on the requirements for safe aircraft takeoff, landing, and ground movement. These requirements have evolved as experience and research have increased FAA's understanding of what is necessary to enhance aviation safety. FAA Airport Design Standards include safety compatibility criteria to which airports must conform. The basic objective of safety compatibility criteria is to minimize the risk associated with potential aircraft accidents. In addition to designation of runway safety areas, FAA provides standards for runway, taxiway, and taxilane design, including length, width, separation, radius of turns, layout, and pavement material composition.

LAX was built prior to the establishment of the FAA's current design standards for airports serving large commercial jets. For this reason, not all of the safety areas and safety zones surrounding the four LAX runways universally meet today's recommended dimensions for new airport development.

FAA has established a mechanism for allowing existing airports to continue operating unimpeded through the declaration of safe aircraft operating parameters known as "declared distances." Guidance on the application of this methodology is contained in FAA Advisory Circular 150/5300-13, Airport Design. Appendix 14 of this Advisory Circular states, "The use of declared distances for airport design shall be limited to cases of existing constrained airports where it is impracticable to provide the runway safety area (RSA), the runway object free area (ROFA), or the runway protection zone (RPZ) in accordance with the design standards in Chapters 2 and 3 [of Advisory Circular 150/5300-13]."

. . .

Navigational aid and instrument land system placement is governed by the FAA through Advisory Circular 150/5300-13, Airport Design, FAA Order 6820.2A, Visual Guidance Lighting Systems, and ICAO Annex 14, Volume 1, Aerodromes Design and Operations. Based on the proposed reconfiguration of runways and taxiways under Alternative D of the LAX Master Plan, to maintain airfield and aircraft safety, associated NAVAIDS and ILS components would need to be realigned pursuant to the mandates contained in FAA's Advisory Circular and Executive Orders. [emphasis added]

As discussed above and in Chapter 3 of the LAX Master Plan and Section 4.14, Coastal Zone Management and Coastal Barriers of the LAX Master Plan EIS/EIR, FAA's Advisory Circular 150/5300-13, Airport Design, FAA Order 6820.2A, Visual Guidance Lighting Systems, and ICAO Annex 14, Volume 1, Aerodromes Design and Operations, govern the placement of NAVAID and ILS components relative to runway centerlines.

D. Proposed Airfield and Navigation Aids Development. The consistency certification, consistency determination, and related EIS and EIR documents provide detailed information on all aspects of the proposed Alternative D development at LAX. In terms of coastal zone impacts, the Commission is focused primarily on potential coastal zone effects from proposed modifications to the two north airfield runways: Runway 24R/6L (the northernmost, or outboard, runway) and Runway 24L/6R (the inboard runway), and the reconfiguration of their associated navigation aids located to the west in the El Segundo Dunes. In brief, Runway 24R/6L would be extended to the west by 1,495 feet, and Runway 24L/6R would be relocated to the south by 340 feet, extended to the east by 1,280 feet, and extended to the west by 135 feet (**Exhibits 6 and 7**).

The following information from the FAA's consistency determination further examines the proposed runway and taxiway improvements:

Enhanced airfield safety would be achieved through airfield facility modifications that would mitigate the primary causes of runway incursions at LAX. In addition, airfield improvements would be made to enable the existing runway systems to better accommodate aircraft operations and meet FAA standards. The number of runways would remain the same at four. Two existing runways would be moved - one by approximately 50 feet [Runway 25L/7R, the outboard runway on the south airfield] *and the other by approximately 340 feet* [Runway 24L/6R, the inboard runway on the north airfield], *two runways would be*

lengthened - one by approximately 1,400 feet [Runway 24L/6R] *and the other by approximately 1,500 feet* [Runway 24R/6L, the outboard runway on the north airfield], *and all runways would be further separated from one another to improve operational efficiency and safety.*

. . .

Under Alternative D, the existing runways would be upgraded and relocated; no new runways would be added. Alternative D would maintain the existing four-runway system with modifications to the two north and south airfield runways. Taxiways would be designed to accommodate the Boeing 747-400 as the design aircraft (Group V) with operational and modified Group VI solutions for the operation of anticipated limited numbers of the New Large Aircraft (NLA). In addition, all existing runway ends would be redesigned to have Runway Safety Areas (RSAs) that meet current FAA standards of 1,000 feet long by 500 feet wide.

As discussed in Section 4.24.3, Safety of the EIS/EIR, LAX was built prior to the establishment of the FAA's current design standards for airports serving large commercial jets. For this reason, not all of the safety areas and safety zones surrounding the four LAX runways universally meet today's recommended dimensions for new airport development.

Under Alternative D, in the north airfield, Runway 6L/24R would have a physical pavement length of 10,420 feet. The west end of the runway would have a 1,000-foot displaced threshold in order to provide the recommended 1,000-foot Runway Safety Area (RSA). A 500-foot clearway would extend off of the west end of the runway, increasing Take-Off Distance Available (TODA) for Runway 24R, while a 1,000-foot clearway would extend from the east end, increasing TODA for aircraft departing Runway 6L.

Also in the north airfield, Runway 6R/24L would have a physical pavement length of 11,700 feet. Both runway ends would have displaced thresholds of 1,000 feet to accommodate the recommended 1,000-foot RSA. A 300-foot clearway would extend from the west end of the runway increasing TODA for Runway 24L to 12,000 feet.

. . .

As described in the LAX Master Plan Final EIR's Topical Response TR-SAF-1, Aviation Safety, under Alternative D, all modified runways would satisfy FAA airport design standards and increase the operational efficiency of the airfield. The proposed improvements described in Chapter 3, Alternatives, of the EIS/EIR would increase runway and taxiway separations for larger aircraft by adding parallel taxiways between runways, and by increasing safety areas to meet current FAA standards. These changes would reduce air traffic controller workload and the associated risk of runway incursions, as well as reduce the risk of aircraft damage in the event of a runway overrun.

In addition to the proposed parallel taxiway between each pair of runways, the existing Taxiway D, which is located north of existing Terminals 1, 2 and 3, would be extended to the west boundary of the airfield increasing available east-west taxi routes to taxiing aircraft. The airfield improvements would increase the number of available east-west taxi routes at LAX from four to at least seven. Each improved or proposed taxiway would be constructed to meet current FAA airfield design standards for wide-body aircraft, thus enhancing access to contact gates designed specifically for wide-body aircraft and eliminating the need to bus passengers across the airfield to remote aircraft hardstands for boarding.

After describing the proposed runway and taxiway improvements, the FAA's consistency determination next examines the resulting need for reconfiguring the navigation aids at the western end of the two north airfield runways (**Exhibits 9-15**):

Alternative D would require changes to navigation aids for Runway 6R within the coastal zone and the Los Angeles/El Segundo Dunes. As part of a planned upgrade of the Runway 6R ILS to Category-II capabilities, the existing MALSR [Medium Intensity Approach Lighting System] *will be upgraded to a High-Intensity ALS with Sequenced Flashers (ALSF-2). The primary differences between the MALSR and ALSF-2 are the number and separation of lights situated along the approach path to the runway end. Both systems extend 2,400 feet beyond the landing threshold and are centered symmetrically about the extended runway centerline.*

. . .

The northernmost runway, Runway 24R/6L is proposed to be extended westerly by approximately 1,495 feet, which in turn would require that the existing navigational aids, specifically the instrument landing light system be shifted to the west as well. The type of landing light system to be utilized is referred to as the Approach Lighting System (Flashing)-2 (ALSF-2) . . . The proposed ALSF-2 lighting system would decrease the spacing between lights by increasing the number of lights used to aid pilots in identifying the airport. The number of lights would increase from 15 to 23, and the existing spacing would decrease from 200 feet to 100 feet between each light. The lights would be directed up to approaching aircraft, and the extra lighting would be used during low visibility Santa Ana conditions (strong easterly winds) and at night when planes are approaching LAX from the west. During normal operations only one-half of the lights would be illuminated. To the extent possible, subject to FAA requirements and approval, the ALSF modifications associated with the extension of Runway 24R/6L would occur at, or adjacent to, the pad areas of the existing system to reduce disturbance impacts within the coastal zone. This would also be the case relative to using the access road adjacent to the existing land light system that currently serves Runway 24R/6L. In addition to the aforementioned land light system improvements, the existing Localizer Antenna (i.e., an antenna that emits an electronic signal used for precise instrument landings during inclement weather, such as periods of heavy fog common to coastal areas such as at LAX) for Runway 24R/6L would be relocated to position within the extension of land light system.

Under Alternative D, existing Runway 24L/6R would be relocated southward by approximately 340 feet and extended east by approximately 1,280 feet and west by approximately 135 feet. As a result of the southward relocation of Runway 24L/6R the alignment and locations of the existing runway light system serving the runway would also need to be shifted to the south. In addition, the existing Localizer Antenna for Runway 24L/6R would also need to be relocated to the south . . . much of the relocated navigational aid system would occur at, or near, existing roads, which would reduce potential disturbance impacts within the coastal zone.

One additional element of the proposed Alternative D project that could potentially affect the coastal zone is a four-story, 12,400-stall employee parking structure located inland of the coastal zone at the western end of the airport, southeast of the intersection of Pershing Drive and World Way West.

The proposed Alternative D does **not** include any provisions for development in the northern 104 acres of the El Segundo Dunes, the area north of the 203-acre Habitat Restoration Area (other than the aforementioned reconfigured navigation aids). An ordinance adopted by the City of Los Angeles in 1992 (No. 167,940) provided for a public golf course and related facilities in this northern area. However, an ordinance adopted by the City in 1994 (No. 169,767) stated that development in the northern area:

. . . shall be limited to a nature preserve and accessory uses only. Accessory uses may include but are not limited to: a nature center, environmental education center or local history display center. Development, including buildings and parking areas shall not exceed 5,000 SF in size or 18 feet in height. Any use of the property, including guided tours shall require a Conditional Use Permit from the City Planning Commission before obtaining any approvals.

In addition, both the consistency certification from LAWA and the consistency determination from the FAA state that:

No hotels or golf course developments in the Dunes are proposed by, or allowed under, the LAX Master Plan.

Lastly, the LAX Master Plan (April 2004) states that Alternative D would be implemented in three phases, with construction extending from 2004 through 2014 (**Exhibit 16**). The proposed modifications to the north airfield runways and the reconfiguration of the associated navigation aids in the El Segundo Dunes is currently scheduled for Phase 3 in the years 2012 through 2014. The parking structure is currently scheduled for Phase 1 in the years 2004 through 2005.

III. <u>Status of Local Coastal Program</u>. The standard of review for federal consistency certifications and consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If the LCP has been certified by the Commission and incorporated into the California Coastal Management Program (CCMP), it can

provide guidance in applying Chapter 3 policies in light of local circumstances. If the LCP has not been incorporated into the CCMP, it cannot be used to guide the Commission's decision, but it can be used as background information. The Los Angeles International Airport/El Segundo Dunes segment of the City of Los Angeles LCP has **not** been certified by the Commission and, therefore, is not applicable in the Commission's review of either the consistency certification or the consistency determination.

IV. Applicant's Consistency Certification. Los Angeles World Airports has certified that the proposed activity complies with California's approved coastal management program and will be conducted in a manner consistent with such program.

V. Staff Recommendation on Consistency Certification:

The staff recommends that the Commission adopt the following motion:

Motion: I move that the Commission **concur** with Los Angeles World Airport's consistency certification CC-061-04 that the project described therein is consistent with the enforceable policies of the California Coastal Management Program.

Staff Recommendation:

The staff recommends a **YES** vote on this motion. Passage of this motion will result in a concurrence with the certification and adoption of the following resolution and findings. An affirmative vote of the a majority of the Commissioners present is required to pass the motion.

Resolution to Concur with Consistency Certification

The Commission hereby **concurs** with the consistency certification made by Los Angeles World Airports for the proposed project, finding that the project described therein is consistent with the enforceable policies of the California Coastal Management Program.

VI. Federal Agency's Consistency Determination. The Federal Aviation Administration has determined the project consistent to the maximum extent practicable with the California Coastal Management Program.

VII. Staff Recommendation on Consistency Determination.

The staff recommends that the Commission adopt the following motion:

Motion: I move that the Commission **concur** with consistency determination CD-062-04 that the project described therein is consistent to the maximum

extent practicable with the enforceable policies of the California Coastal Management Program.

Staff Recommendation:

The staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence with the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution to Concur with Consistency Determination:

The Commission hereby **concurs** with the consistency determination made by the Federal Aviation Administration, finding that the project is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program.

VIII. Practicability:

The federal consistency regulations provide:

Section 930.32 Consistent to the maximum extent practicable.

(a) The term "consistent to the maximum extent practicable" describes the requirements for Federal activities including development projects directly affecting the coastal zone of States with approved management programs to be fully consistent with such programs unless compliance is prohibited based upon the requirements of existing law applicable to the Federal agency's operations. If a Federal agency asserts that compliance with the management program is prohibited, it must clearly describe to the State agency the statutory provisions, legislative history, or other legal authority which limits the Federal agency's discretion to comply with the provisions of the management program.

In conclusion and based on the above information in Section II, the Commission finds that there is a basis in the federal statutes that compels LAWA to comply with the FAA advisories and standards for the design of runways and taxiways at LAX, in particular, FAA Advisory Circular 150/5300-13, Airport Design. The Commission also finds that FAA is required to reconfigure the navigation aids which serve the two runways in the north airfield once they are separated and lengthened.

The FAA has submitted materials to the Commission which assert that full compliance with the California Coastal Management Program (CCMP), in particular, with the environmentally sensitive habitat allowable use policy of Section 30240, is prohibited by existing federal statute and FAA regulations and advisories. These materials and their relevance to the above-referenced practicability provision were analyzed previously in Section II.B and II.C of this report (pages

10-17). Based on that analysis, the Commission concludes that with regard to the environmentally sensitive habitat allowable use policy of Section 30240, the standard before it is whether the proposed project is consistent to the maximum extent practicable with that policy. (The Commission's analysis of that question is found below, on pages 39-40.) With regard to the other applicable CCMP policies, the Commission has concluded that the proposed project is fully consistent with those policies.

However, as discussed previously in the **Staff Note/Procedures** section of this report, the Commission has the ability under the federal consistency regulations to re-open this consistency determination and/or certification should there be: (1) substantial modifications to the environmentally sensitive habitats in the El Segundo Dunes in the time period leading up to the start of project construction in 2012; (2) changes in navigation aid technology during the time period leading up to 2012 that would eliminate the need to install navigation aids in the Dunes, or that would provide for a modified navigation aid plan that creates fewer adverse effects to coastal dune habitat; or (3) impacts to coastal resources substantially different from those expected at the time of concurrence. Should one or more of these scenarios occur, the Commission's finding that the project is "consistent to the maximum extent practicable" could be re-examined in light of new circumstances.

IX. Findings and Declarations:

The Commission finds and declares as follows:

A. Environmentally Sensitive Habitat and Wetlands. Section 30240 of the Coastal Act provides:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30233 of the Coastal Act provides in part:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.

(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities. . . .

1. <u>Wetlands Inland of the Coastal Zone at LAX</u>. Proposed development in disturbed wetlands inland of the coastal zone boundary (at the western end of the north airfield) holds the potential to adversely affect coastal zone wildlife that could be dependent upon these wetlands (**Exhibit 17**). As a result, the consistency certification from LAWA examines wetland resources and potential impacts at this location:

As discussed in Section 4.11, Endangered and Threatened Species of Flora and Fauna and Section 4.12, Wetlands of the Final EIR, approximately 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp is located in the western airport operations area of LAX property. This wetland area is not located within the coastal zone. The degraded wetland habitat does not have any hydrological or habitat links to the coastal zone resources (i.e., the subject wetlands are isolated depressions that, on occasion, receive water from runoff in the immediate area, and contain fairy shrimp cysts specific to that setting). The subject habitat area is subject to routine operations and maintenance activity in compliance with Title 14, CFR Park 139, which mandates that the airport operations area be maintained in such a condition so as to minimize or eliminate hazards to

public safety resulting from wildlife utilization. The ponding of water would serve as an attractant to birds, and this poses a safety risk to aviation uses. In light of the existing provisions and measures to avoid the ponding of water within the subject degraded wetlands, with the specific intention of discouraging/avoiding the use of these degraded wetlands by wildlife, these wetlands do not provide a habitat link to coastal birds.

The LAWA consistency certification next examines potential impacts to the disturbed wetlands outside the coastal zone, whether those wetland impacts could affect coastal zone resources, and, notwithstanding their location and potential effects on the coastal zone, whether the proposed fill would be consistent with the wetland policies of the Coastal Act:

Alternative D would impact 0.04 acre (1,853 square feet) of the degraded wetland habitat. Ongoing operations and maintenance activities at LAX would impact the remaining 1.26 acres of degraded wetland habitat. It should be noted that the entire 1.3 acres of degraded wetland habitat would be impacted by such ongoing operations and maintenance activities, even if Alternative D were not approved. Onsite conservation of Riverside fairy shrimp within the airport operations area would be incompatible with FAA guidelines pursuant to 14 CFR, Section 139.337. Hazard management activities performed under these guidelines with respect to vegetation management include mowing, discing, and grading activities to ensure safety, which is in direct conflict with habitat improvements for the Riverside fairy shrimp. These activities would result in the loss of habitat values for the Riverside fairy shrimp. However, with implementation of mitigation measure MM-ET-1, Riverside Fairy Shrimp Habitat Restoration, outlined in Section 4.11, Endangered and Threatened Species of Flora and Fauna of the Final EIR, soils containing cysts of Riverside fairy shrimp shall be moved to a suitable alternate location in coordination with the USFWS, thus providing an opportunity for the species' recovery.

Notwithstanding the fact that the subject degraded wetlands are located well outside of the coastal zone, the filling of those wetlands would not conflict with the three-part test under §30233(a)(5) for coastal zone projects involving wetland fill: (a) the allowable use test; (b) the alternatives test; and (c) the mitigation test. Under the first of these tests, a project must qualify as one of the eight stated uses allowed under §30233(a). Since the other allowable uses do not apply, the Commission must determine whether the proposed project can be permitted under §30233(a)(5), which authorizes fill for: "Incidental public service purposes, including but not limited to, burying cables, pipes or inspection of piers and maintenance of existing intake and outfall lines."

In order to be considered an "incidental public service purpose" a proposed fill project must satisfy two tests: (1) the project must have a "public service purpose," and (2) the purpose must be "incidental" within the meaning of that term as it is used in §30233(a)(5). Because the project would be constructed by a public agency for the purpose of providing transportation services to the public, the fill is for a public service purpose. Thus, the project satisfies the first test. With respect to the second test, given the types of previously-determined allowable uses by the Coastal Commission, the Commission supports

interpretations of §30233(a)(5) to apply to forms of public transportation other than roads.[1] *The proposed LAX project would improve the safety, security, and efficiency of LAX without substantially increasing capacity beyond that which would otherwise occur even if no improvements were made at LAX (i.e., Alternative D is specifically designed to accommodate the same level of future (2105) airport activity as that of the No Action/No Project Alternative).*

Under the second of the three-part test, based on the evaluations and analyses provided in the Final EIR for the LAX Master Plan, Alternative D is the environmentally preferred alternative (see Section 3.5, The CEQA Environmentally Superior Alternative, for a summary of the EIR conclusions supporting that determination). Additionally, as discussed in Section 4.12, Wetlands of the Final EIR, the existing degraded wetland habitat would continue to be subject to long-term operations and maintenance activities in compliance with Title 14, CFR Park 139, even if Alternative D were not implemented at LAX. This long-term maintenance would result in the permanent loss of habitat value and functions normally associated with wetlands.

Under the third of the three-part test, according to the USFWS Biological Opinion (FWS-OR-1012.5) for the Los Angeles International Airport Master Plan, implementation of mitigation measure MM-ET-1, Riverside Fairy Shrimp Habitat Restoration, in Section 4.11 of the Final EIR, would provide for the replacement of 0.04 acre (1,853 square feet) of degraded wetland habitat with estimated habitat value of 0.15 with 0.12 acres (5,559 square feet, as determined by a 3:1 mitigation ratio) of created vernal pool habitat with an anticipated habitat value of 0.75. In addition, the potential indirect affects to 1.26 acres of jurisdictional wetlands would be avoided through implementation of construction avoidance measures described in MM-ET-1, in Section 4.11 of the Final EIR.

Mitigation measure MM-ET-1 has been recommended as part of the jurisdictional delineation submitted to the USACOE to fulfill the responsibilities of FAA and LAWA, pursuant to Section 404 of the Clean Water Act. As discussed in Section 4.11 of the Final EIR, with implementation of mitigation measure MM-ET-1, there would be no net loss of habitat functions or values.

The Commission finds that the disturbed wetlands within the north airfield are located outside the coastal zone, have no hydrological connection to the coastal zone, and do not provide habitat significantly beneficial to or required by fish or wildlife present in the coastal zone. In addition, the Commission concurs with LAWA's determination that, to the extent the allowable use test is applicable, the proposed fill would be an allowable use (incidental public service), the least environmentally damaging alternative, and that unavoidable project impacts would be adequately mitigated by LAWA.

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[1] CCC staff note: see consistency certification CC-058-01 (Santa Barbara Municipal Airport)

2. Los Angeles/El Segundo Dunes in Coastal Zone.

(a) Environmentally Sensitive Habitat. The El Segundo Dunes, located west of Pershing Drive, are within the coastal zone. The 2004 Final EIR for the LAX Master Plan states that the Dunes are considered an environmentally sensitive habitat area (ESHA), based on their critical importance as habitat for the endangered El Segundo blue butterfly. The Dunes, a remnant of a once much larger dune ecosystem, are now considered an endangered landform and comprise approximately 307 acres. This area includes a 203-acre Habitat Restoration Area established by the City of Los Angeles in 1992. The City initiated active habitat management efforts for the El Segundo blue butterfly in 1987 and continues those work efforts today. The Dunes currently contain 150 acres of occupied habitat for the El Segundo blue butterfly. The Commission has previously approved coastal development permits for dune restoration activities in the Habitat Restoration Area. A majority of the existing LAX navigation aids located in the northern portion of the Dunes are located outside of the Habitat Restoration Area (the habitat area occupied by the El Segundo blue butterfly).

The April 2004 U.S. Fish and Wildlife Service's (Service) *Biological Opinion* for the LAX Master Plan provides additional background information on the Dunes and the El Segundo blue butterfly (ESB). The Service listed the butterfly as endangered throughout its entire range in June 1976 and published a recovery plan in September 1998. The El Segundo Dunes is the largest remaining undeveloped coastal sand dune system in southern California and contains what the Service believes to be the largest remaining population of ESB (**Exhibits 18 and 19**). Population estimates for ESB vary greatly from year to year and the Service notes in its *Biological Opinion* that there is disagreement (among biological consulting firms) regarding the survey methods employed to estimate the ESB population. A 2002 population survey prepared for LAWA estimated the population to be between 52,000 and 54,000 ESB. That survey also noted the coast buckwheat (the ESB host plant) population is declining and that the current rate of recruitment would not be sufficient to replace the growing number of senescent plants. The *Biological Opinion* notes that the ESB is at high risk of population collapse because of the isolation of habitats, relatively small number of individuals, limited ability to disperse, and dependence on a specific habitat and host plant.

The *Biological Opinion* also provides:

> *The ESB are currently in their highest concentrations on the lee side of the southern portion of the dunes. In recent years the ESB population has been relatively large. At the same time that the number of butterflies has increased, the total number of coast buckwheat plants has been declining (Arnold 2002a; 2003). It appears the age structure of the coast buckwheat population at LAX is shifting towards a more mature, decadent, and smaller population (Arnold 2003). The number of flower heads has been high in the past few years, but an increasing number of plants are becoming senescent and the number of juvenile recruits is not keeping up with the loss of reproductive plants. If this trend continues, a collapse of the buckwheat population on the LAX ESB preserve is likely. Arnold (2002a; 2003)*

recommends that LAX resume its active management of the ESB preserve and reinstate the coast buckwheat propagation and planting program.

In the northern portion of the preserve, where the specific impacts to the El Segundo dune complex are proposed, the past restoration efforts and coast buckwheat plantings have been largely unsuccessful. There are very few coast buckwheat plants in the approach lighting impact area (existing navigational aid system) and it is unlikely that further restoration within the approach lighting impact area would be successful (I. Mendez, Sapphos Environmental, pers. comm. 2004). Based on previous surveys for ESB in the existing and proposed navigational aid system areas on the El Segundo dune complex, densities for ESB are expected to be very low.

The FAA's consistency determination examines ESHA found within the coastal zone in the El Segundo Dunes:

In 1992, the City of Los Angeles designated an approximately 200-acre Habitat Restoration Area for the long-term conservation of the El Segundo blue butterfly pursuant to City Ordinance 167940. Formal restoration activities within the El Segundo Blue Butterfly habitat Restoration Area were completed by Los Angeles World Airports (LAWA) in fall 1994. Over 150 acres of coastal dunes habitat were successfully vegetated with a suite of plant species native to the site. As an activity related to the protection and recovery of a federally listed endangered species, the subject habitat restoration activities were coordinated closely with the U.S. Fish and Wildlife Service. Subsequent to completing the habitat restoration activities in 1994, a formal habitat maintenance/management program was implemented between January 1995 through late 2000. Currently the overall maintenance/management of the dunes restoration area is supervised by the Environmental Management Division of LAWA. Also occurring since 1994 have been annual surveys and reporting of the status of the El Segundo blue butterfly (ESB) within the Habitat Restoration Area. As part of this program, the following annual assessments are made:

- *Plant communities*
- *Historic transect count for ESB*
- *Block count of ESB*
- *Buckwheat monitoring*
- *An annual estimate of ESB*

Los Angeles World Airports (LAWA) owns and manages the 307-acre Los Angeles/El Segundo Dunes located immediately west of the airport operations area and actively maintains approximately 203 acres of the 307-acre site. Known as the El Segundo Blue Butterfly Habitat Restoration Area, the 203-acre site is home to the federally-listed El Segundo blue butterfly and several other sensitive habitat and species and is the largest remaining representation of coastal dune community within Los Angeles.

The El Segundo Blue Butterfly Habitat Restoration Area (Habitat Restoration Area) located to the west of the airfield, is comprised of approximately 202.8 acres. Four biotic communities are represented: Southern Foredune (135.6 acres), Southern Dune Scrub (24.4 acres), Valley Needlegrass Grassland (17.1 acres), and Developed (25.7 acres).

Approximately 104.3 acres of non-restructured dunes adjacent to and north of the Habitat Restoration Area comprised three biotic communities: Disturbed Dune Scrub/Foredune (74.6 acres), Non-Native Grassland/Ruderal (16.9 acres), and Developed (12.8 acres). The biotic communities and vegetation types found within the coastal zone are discussed in detail below.

Southern Foredune: Southern Foredune plant communities are typically dominated by perennial species with a high proportion of suffrutescent (slightly woody at base) plants up to 30 cm tall. The Southern Foredune community is inhabited by a number of wildlife species, including the federally-listed El Segundo blue butterfly. Within the study area, 135.6 acres of this community are found within the Habitat Restoration Area west of Pershing Drive. Relatively undisturbed areas (about 40 acres) surrounding the Very High Omni Range Navigation Beacon provide the most representative example of this community. Ecological restoration efforts undertaken between 1987 and 1994 have restored an additional 95.6 acres. The host plant and primary food source for the El Segundo blue butterfly, coast buckwheat, is found in this biotic community.

Southern Dune Scrub: Southern Dune Scrub is a dense coastal scrub community of scattered shrubs, subshrubs, and herbs, generally less than 1 meter in height, often developing considerable cover, and often succulent. Along the coast, Southern Dune Scrub intergrades with the Southern Foredune plant community. The Los Angeles/El Segundo Dunes contain virtually the only remaining example of this plant community in mainland Southern California. The Southern Dune Scrub community is found only within the Habitat Restoration Area along the steep slope of the backdune and is comprised of 24.4 acres. The host plant and primary food source for the El Segundo blue butterfly, coast buckwheat, is found in this biotic community.

Valley Needlegrass Grassland: The deflation plain east of the backdune consists of loosely consolidated (incipient) sandstone covered to variable depths with aeolian (wind-transported) sand. Many common species of birds and two reptiles are known to utilize this biotic community. This biotic community has been significantly altered and degraded by development activities. The floral components typically associated with it are now almost completely absent due to extensive grading and paving and the invasion of exotic annual grasses. No vernal pools exist today. The Valley Needlegrass Grassland community occupies 17.1 acres within the Habitat Restoration Area, and is limited to three distinct areas adjacent to and west of Pershing Drive.

Disturbed Dune Scrub/Foredune: This community is made up of 74.6 acres and is located north of the Habitat Restoration Area, south of Waterview Street, west of

Pershing Drive, east of Vista del Mar Boulevard, and is bisected by Sandpiper Street. This biotic community is heavily disturbed and is dominated by invasive species that drive out native vegetation. The few coastal dune elements are patchy and include burbush, dunes evening primrose, bush lupine, pink sand verbena, and deerweed. Coast buckwheat is absent from this site.

Non-Native Grassland/Ruderal: Non-Native Grassland/Ruderal areas are those that have been subjected to past disturbance. It includes a portion of the Los Angeles/El Segundo Dunes that was once a residential area,

Developed: Developed areas within the dunes occupy 13 acres, primarily remnant roads serving the now-removed residential structures once located in the dunes.

The Habitat Restoration Area is home to the federally listed El Segundo blue butterfly. LAWA's habitat conservation and restoration efforts were initiated in 1987 and have received national attention. LAWA, in coordination with U.S. Fish and Wildlife and the California Department of Fish and Game, has provided and continues to provide the resources necessary for the habitat conservation and restoration efforts.

There are 20 sensitive plant species designated by federal or state agencies that were determined to have the potential to be present within the coastal zone. Surveys conducted for sensitive plant species identified three of these species within the coastal zone. Surveys identified 9,051 individuals of Lewis' evening primrose within the Habitat Restoration Area and an additional 300 individuals within the airfield. The El Segundo duneflower was also present within the Habitat Restoration Area, with an extremely small population of only three individuals. The California spineflower was also located in eight areas within the Habitat Restoration Area; 572 individuals were found. Seventeen sensitive plant species were determined absent within the coastal zone.

There were 34 sensitive wildlife species designated by federal or state agencies that were determined to have the potential to occur within the coastal zone; 24 of these species were identified within the coastal zone. There are 18 sensitive arthropods, 14 sensitive insect species and four sensitive arachnids, all of which were located within the Los Angeles/El Segundo Dunes. The western spadefoot toad was determined present in ephemeral ponds in the south airfield. Two sensitive reptiles, the silvery legless lizard and the San Diego horned lizard, were determined present within the Los Angeles/El Segundo Dunes. Two sensitive bird species, the burrowing owl and the loggerhead shrike, were detected in the Los Angeles/El Segundo Dunes. The only sensitive mammal present in the coastal zone is the San Diego black-tailed jackrabbit, which utilizes the open space area located within the southwestern corner of the airfield.

(b) Project Impacts. The consistency determination examines potential direct impacts from the proposed reconfiguration of the FAA navigation aides located in the El Segundo Dunes on environmentally sensitive habitats within the dunes **(Exhibits 11-15)**:

Under Alternative D, construction of navigational aids and associated service roads would result in impacts to 66,675 square feet (1.53 acres) of state-designated sensitive habitat within the Los Angeles/El Segundo Dunes. The new navigational aid system would include a new ALSF-2 lighting system and would permanently convert 0.25 acres of active El Segundo blue butterfly habitat in the Dunes to concrete to support the navigational lighting system. The proposed ALSF-2 lighting system would decrease the spacing of lights and increase the number of lights used to aid pilots in identifying the airport from 15 to 23. The spacing between each light would decrease from 200 feet to 100 feet. The lights from the ALSF-2 would be directed up at approaching aircraft. The extra lighting would be used during low visibility Santa Ana conditions (strong easterly winds) and at night when planes are approaching LAX from the west. During normal operations only one-half of the lights would be illuminated.

As addressed at a planning level of analysis in the Final EIR, the proposed relocation of navigational aids associated with the improvements planned for Runways 24R/6L and 24L/6R would disturb a total of approximately 66,675 square feet (1.53 acres) of area within the coastal zone based on an assumed 9'x9' pad area for each landing light standard, a 15' service buffer around each pad area, and a 15'-wide service road along the alignment of landing light pads. As noted above, existing access roads would, by intention and design, be used to the extent feasible; however, such roads are approximately 10 feet wide, and would need to be widened to 15 feet. The impacts of such widening of existing roads, where necessary and appropriate, have been accounted for in calculating the areas of disturbance (the location of existing roads can been seen on the underlying existing conditions basemap in Figure 3, and are also shown on Figures 5 through 7 in the discussion below). The following provides a breakdown of surface disturbance associated with the navigational aids improvements and relocations, as addressed at a planning level of analysis in the Final EIR.

Impacts from Runway 6L (in Square Feet)			
Impact Area	**Pad Area (including service area buffer)**	**Service Roads**	**Localizer Antennae**
Los Angeles/El Segundo Dunes	13,689 (9 pads)	12,151	5,980
Habitat Restoration Area (HRA)	3,042 (2 pads)	1,929	0
ESB[1] Occupied Area within HRA	0	0	0
Total Impact	**16,731**	**14,080**	**5,980**

[1] El Segundo blue butterfly

Impacts from Runway 6R (in Square Feet)			
Impact Area	**Pad Area (including service area buffer)**	**Service Roads**	**Localizer Antennae**
Los Angeles/El Segundo Dunes *	1,521 (1 pad	0	0
Habitat Restoration Area	12,168 sq. ft. (8 pads)	10,215	5,980
ESB Occupied Area within HRA	3,042 (2 pads)	1,575	5,980
Total Impact	**13,689**	**10,215**	**5,980**

* 3 of the 4 light standards are placed on existing paved areas in the Sand Dunes

Total Impacts from Navigational Aids (in Square Feet)			
	Total Impact to Los Angeles/El Segundo Dunes	**Habitat Restoration Area Impact**	**ESB Occupied Area within Habitat Restoration Area**
Pad Areas	30,420	15,210	3,042
Service Roads	24,295	12,144	1,575
Localizer Antennae	11,960	5,980	5,980
Total Impact	**66,675**	**33,334**	**10,597**

Assumptions for Calculations:

- Pads areas for light standards (ALSF-2) are comprised of a 9 ft. X 9 ft. platform plus a 15 ft. buffer = 39 ft.^{2} = 1,521 sq. ft.
- Localizer antennae measure 100 ft. X 16 ft. plus a 15 ft. buffer = 130 ft. X 46 ft. = 5,980 sq. ft.
- New service roads will have a width of 15 ft.
- Existing service roads have an average width of 10 ft. and will be widened by 5 ft.
- Pads proposed within existing roads are not considered to have an impact

The Commission staff requested that the FAA provide additional details (beyond those contained in the consistency determination) on the impacts to ESHA from the reconfiguration of the navigation aids:

> *Further design of the proposed improvement and relocation of the existing navigational aids was undertaken for the purpose of this Consistency Determination, providing preliminary engineering based on site conditions and typical designs for approach lighting systems and instrument landing systems such as those anticipated for the project. The results of this additional design effort are presented in Figure 5, Proposed Navigational Aids - NAVAID Site Plan, Figure 6, Proposed Navigational Aids - Runway 6L ALSF-2, Figure 7, Proposed Navigational Aids - Runway 6R ALSF-2, and Figure 8, Proposed Navigational Aids - Details.* **[Exhibits 13-15]** *The most notable refinements that came out of the preliminary engineering include a reduction in the amount of surface area affected by the grading of,*

and buffer area for, the lighting system pad areas (i.e., original assumption of 39'x39' reduced to 32'x37'), reduction of the affected area associated with each localizer antennae (i.e., original assumption of 130'x46' reduced to 118'x33'), and the identification of ancillary facilities required to support the new system (i.e., ALSF equipment shelters and adjacent gravel parking area, and localizer duct banks [e.g., electrical wire conduits] between the localizer antennae/ALSF corridor and the ALSF equipment shelters). Based on the more detailed design, the impact areas were recalculated, and a comparison between the original planning estimates and the subsequent preliminary engineering estimates is provided in the table below. It should be noted that the improvement and relocation of the navigational aids are subject to further refinement in conjunction with final engineering, the selection/ purchase of the new equipment, FAA plans and specifications check, implementation of the associated manufacturer's specification, and other requirements applicable at the time Runway 24L/6R is relocated, which is currently scheduled to occur in 2012-2013.

LAX Master Plan Alternative D Impacts Within Coastal Zone
(in Square Feet)

	Runway 6L		Runway 6R		TOTAL	
	Planning Estimate	**Engineering Estimate**	**Planning Estimate**	**Engineering Estimate**	**Planning Estimate**	**Engineering Estimate**
ALSF Landing Light Systems	16,731	13,024	13,689	14,208	30,420	27,232
Localizer Antennae	5,980	3,894	5,980	3,894	11,960	7,788
Access Roads	14,080	10,360	10,215	10,650	24,295	21,010
Ancillary Facilities*		2,136		2,136		4,272
TOTAL	**36,791**	**29,414**	**29,884**	**30,888**	**66,675**	**60,302**

* Ancillary Facilities were calculated separately for the preliminary engineering estimate, and include a gravel parking lot, equipment shelters, and duct banks.

For purposes of calculating the necessary mitigation for project impacts, the FAA continues to use the more conservative figure of 1.53 acres of El Segundo Dunes ESHA affected by the construction of new navigation aids and their related support facilities. Of this area, 0.77 acres are located in the Habitat Restoration Area, and within this area 0.24 acres of habitat occupied by the El Segundo blue butterfly would be affected. As discussed below in Section A.2.(c), the FAA will provide mitigation for the 1.5-acre impact at a ratio of 2:1.

The proposed project also requires the removal of existing navigation aids and in some cases the removal of the concrete pads that support those aids. In other instances, the concrete pads may be left in place. The FAA has estimated, for purposes of calculating their mitigation requirement, that the existing concrete pads that will no longer be needed to support the reconfigured navigation aid system cover an area of approximately 1.4 acres. The FAA has not yet completed its on-the-ground engineering analysis of the concrete pads to be abandoned. At this time, the FAA is unable to conclude which pads can be removed and which pads, due to their physical characteristics, cannot be feasibly be removed. The FAA has committed to providing the Commission with its final determination regarding the disposition of each of the concrete pads. However, and as discussed below in Section A.2.(c), the FAA will provide mitigation for the 1.4-acre impact on dune habitat from the removal or retention of these pads at a ratio of 2:1.

The consistency determination next examines potential indirect impacts on the El Segundo Dunes ESHA from lighting and noise and cites the LAX Master Plan Final EIR analysis of existing conditions in the dunes area:

> *Lighting in the dunes, which includes the Habitat Restoration Area, currently consists of navigation aids and security lighting for two small buildings . . . Some light spills into the HRA from streetlights on Vista del Mar; however, this is minimal. There is additional spillover from street lights along Pershing Drive, the majority of which is minimal except for where street lighting is adjacent to a portion of the backdune habitat. This particular area has consistently had observations of the highest numbers of El Segundo blue butterfly during a decade of monitoring efforts . . . Light emissions within the HRA range from 0.004 to 0.26 foot candles (fc). For a point of reference, illumination associated with natural conditions range from 0.004 fc for a moonless night, 25.0 fc for dawn, and 125.0 fc for a bright day . . . based on the levels of light that spill onto the Dunes at the present time, and the presence of sensitive species within this area, it appears that current lighting conditions do not adversely affect sensitive species at LAX.*
>
> *. . . under 1996 baseline conditions, maximum noise levels at five of the six grid point locations within the Los Angeles/El Segundo Dunes and the western portion of the airport exceed the 95 decibel threshold . . . although the total time above this decibel level is very limited . . . Nevertheless, sensitive species currently reside at LAX, including locations subject to high noise levels . . . Based on the analysis of existing noise levels at locations occupied by sensitive species, and the presence of sensitive species within these areas, it appears that current noise conditions do not adversely affect sensitive species at LAX.*

The consistency determination next examines potential light, construction dust, and noise impacts from the proposed reconfiguration of the navigation aids:

> *As discussed in the USFWS Biological Opinion, increased light and photo period has been shown to increase the growth and productivity of butterflies and moths; however, the production is typically offset by predation. The increased lighting in the Los Angeles/El*

Segundo Dunes and Habitat Restoration Area during evening hours may increase the activity period of adult El Segundo blue butterfly. However, the new lighting system is proposed for an area of the El Segundo dune complex that contains very low densities of El Segundo blue butterfly and coast buckwheat. Further, the lights are designed to illuminate the sky rather than the ground. Therefore, the expected increase in ambient light levels of 0.34 foot-candles (fc) and changes in navigational aid lighting, with implementation of Master Plan Commitment LI-3 regarding lighting controls, are not expected to have significant impacts on biotic communities, including sensitive floral and faunal species in the coastal zone.

As discussed in the Final EIR, implementation of Alternative D would not result in significant indirect air quality impacts to biotic communities due to the prevailing wind conditions and the location of peak concentrations of air pollutants within the eastern portion of the airport. However, according to both Section 4.10 and Section 4.11 construction activities, including staging and stockpiling of materials proximal to the Los Angeles/El Segundo Dunes and the Habitat Restoration Area have the potential to result in deposition of fugitive dust within state-designated sensitive habitats. Implementation of mitigation measures MM-BC-1 included in Section 4.10 and MM-ET-3 included in Section 4.11 of the Final EIR, and the construction avoidance measures discussed within these mitigation measures, would reduce impacts to this sensitive coastal zone habitat to less than significant levels.

As discussed in Section 4.11 of the Final EIR there is no increase in L_{max}, [maximum noise level] under Alternative D compared to 1996 baseline conditions. All three noise metrics decrease when compared to the 1996 environmental baseline; therefore, implementation of Alternative D would not result in significant impacts from noise to sensitive wildlife species in the coastal zone.

The April 2004 *Biological Opinion* prepared by the U.S. Fish and Wildlife Service also addressed the potential lighting impacts on the dunes :

Increased light and photo period has been shown to increase the growth and productivity of butterflies and moths, however, the production is typically offset by predation (Gotthard 2000). The increased lighting in the preserve, during evening hours, may increase the activity period of adult ESB. However, the new lighting system is proposed for an area of the El Segundo dune complex that contains very low densities of ESB and coast buckwheat. Further, the lights are designed to illuminate the sky rather than the ground.

Regarding potential lighting impacts, the FAA has agreed to comply with LAX Master Plan Commitment LI-3, which states as follows:

Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure,

where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spillover. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

(c) Mitigation Measures for Coastal Zone Impacts. The FAA addressed the impacts resulting from the proposed reconfiguration of the navigation aids in the El Segundo Dunes in part by developing a Habitat Restoration Plan (HRP)(**Appendix A,** *Los Angeles/El Segundo Dunes Habitat Restoration Plan, October 29, 2004*). The HRP describes a process whereby the new disturbance of 1.5 acres of ESHA, and the removal and/or retention of 1.4 acres of abandoned concrete pads supporting navigation aids no longer needed by the FAA, are adequately mitigated (using an acreage ratio of 2:1) prior to the construction of the new navigation aids. The HRP is based on mitigation of acreage lost due to reconfiguration of the navigation aids system, and not on MLEP habitat units, which the Commission has not recognized as an appropriate methodology to evaluate habitat impacts and/or mitigation requirements arising from project impacts, in the El Segundo dunes or other coastal zone locations. The HRP submitted to the Commission was designed by the FAA in the context of mitigation measures previously developed by the FAA and LAWA during the project EIS/EIR process, the U.S. Fish and Wildlife Service's Biological Opinion for potential project impacts on federally endangered species, and comments received from Commission staff. One of the key features of the HRP is the commitment by the FAA to complete restoration work in the dunes prior to construction of the new navigation aid system so that there is no loss of ESHA habitat arising from the new navigation aid system.

The FAA developed the following mitigation measures during the EIS/EIR process for the LAX redevelopment project. These measures are designed to mitigate impacts on coastal resources arising from the FAA navigation aids project and are addressed in greater detail in the HRP:

MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area.

The FAA, or its designee, shall take all necessary steps to ensure that the state-designated sensitive habitats within and adjacent to the HRA are conserved and protected during construction, operation, and maintenance, by the implementation of construction avoidance measures, as described in this Habitat Restoration Plan.

MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose.

The FAA, or its designee, shall implement a plan to compensate for the loss of individuals of the sensitive Lewis' evening primrose, currently located within the HRA, as described in this Habitat Restoration Plan.

MM-BC-9. Conservation of Faunal Resources.

The FAA, or its designee, shall conduct preconstruction surveys to determine the presence of individuals of sensitive arthropod species, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl within the proposed area of impact in the Dunes. Surveys will be conducted at the optimum time to observe these species. Should an individual be observed, they will be relocated to suitable habitat for that species within the HRA, as described in this Habitat Restoration Plan.

MM-BC-13. Replacement of State-Designated Sensitive Habitat.

The FAA, or its designee, will restore at a 2:1 ratio impacts to 1.4 acres of state-designated sensitive habitat to the appropriate state-designated sensitive plant community. An estimated 1.4 acres of state-designated sensitive habitat currently occupied by navigational aids that are scheduled for removal have the potential of being disturbed during removal activities. A total of 2.8 acres will be restored, with 1.4 acres taking place "in-situ" and 1.4 acres taking place within Subsite 23 of the HRA, as described in this Habitat Restoration Plan. Implementation of MM-ET-4 and MM-BC-13 will provide for a total of 4.4 acres of Southern Foredune habitat within Subsite 23.

MM-ET-4. El Segundo Blue Butterfly Conservation: Habitat Restoration.

The FAA, or its designee, shall restore 3.0 acres of coastal dune habitat designated as Southern Foredune within Subsite 23 of the HRA and relocate coast buckwheat individuals that have the potential to be impacted as a result of the installation of ALSF-2 navigational aids in support of Alternative D. In conformance with Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS) on April 20, 2004, for the Alternative D of the LAX Master Plan, activities associated with navigational aid development shall be limited to the existing roads and proposed impacts areas, as described in the Final EIR. Habitat restoration will take place at a minimum of three years prior to the impact (scheduled for 2012-1013), as described in this Habitat Restoration Plan. Implementation of MM-ET-4 and MM-BC-13 will provide for a total of 4.4 acres of Southern Foredune habitat within Subsite 23.

The full text of these mitigation measures is provided in **Exhibit 20.**

The *Biological Opinion* issued by the United States Fish and Wildlife Service (FWS-OR-1012.5, April 20, 2004) states that:

. . . it is estimated that a total of two coast buckwheat plants would be directly affected by the installation of the navigational lighting system. The removal and relocation of the two coast buckwheat plants would likely result in the loss of any El Segundo blue butterfly larvae or pupae associated with that particular plant due to elimination of its food source. However, because of the poor quality of El Segundo blue butterfly habitat in the impact

area, it is unlikely that these actions would directly impact more than a small number of El Segundo blue butterfly.

The USFWS Biological Opinion finds that the proposed action is not likely to jeopardize the continued existence of El Segundo blue butterfly. The conclusion is based on the 0.25 acres of habitat lost in the El Segundo blue butterfly reserve is of poor quality and would be off set by the restoration of 1.25 acres of high quality habitat in sub-area 23 on the southern area of the Habitat Restoration Area.

In addition, the *Biological Opinion* includes two conservation recommendations, which are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information:

1. We recommend FAA and LAWA resume active restoration and management within the El Segundo blue butterfly preserve. Activities should include weed removal, active planting of coast buckwheat plants to replace the decadent and senescent plants, and plan for further restoration activities.

2. We recommend FAA and LAWA review and, if necessary, revise the quantitative methods used to estimate the populations of ESB at LAX and Chevron preserves.

The Commission has reviewed the *Habitat Restoration Plan* and finds that it now includes adequate provisions for mitigating the unavoidable adverse impacts on coastal dune habitat from the FAA's proposed reconfiguration of navigation aids in the El Segundo Dunes. Modifications and changes to the draft *Habitat Restoration Plan* made at the suggestion of the Commission staff satisfactorily resolved several coastal resource issues, and included improving the amount of mitigation acreage, the methodology for determining success of restoration activities, and expanding the area to be planted with coast buckwheat. Regarding the latter issue, the final *Habitat Restoration Plan* states that:

As a result of coordination efforts undertaken between CCC, FAA, and LAWA, it has been mutually agreed to that in lieu of including coast buckwheat within the plant palette for in-situ restoration of the Southern Foredune plant community, enhancement of the 4.2-acre Subsite 22 within the HRA will be undertaken by planting the appropriate number of coast buckwheat plants sufficient to enhance existing clusters of buckwheat and to establish a new cluster. Subsite 22 has been identified as an appropriate site for the enhancement plantings due to the current low numbers of coast buckwheat individuals (approximately 56 coast buckwheat plants), thus providing opportunities to not only enhance the existing clusters of buckwheat but to establish a new cluster of plants. While Subsite 22 will be monitored concurrently with monitoring efforts at Subsite 23, no success criteria are established for plantings within Subsite 22.

Subsite 22 will be surveyed to identify appropriate areas for the enhancement of existing clusters of coast buckwheat and for the establishment of a new cluster.

The Commission concludes that with the successful implementation of the *Habitat Restoration Plan*, there will be no significant disruption of habitat values in the El Segundo Dunes ESHA. Further, the Commission finds that notwithstanding the impacts to 2.9 acres of dune habitat from the proposed project, with the proposed restoration of 5.8 acres of coastal dune habitat at Subsites 22 and 23 and at sites along the linear tracks of the abandoned navigation aids, the biological health of the dunes, and in particular coast buckwheat plants that support the endangered El Segundo blue butterfly, will be enhanced over present conditions.

(d) Allowable Use in Environmentally Sensitive Habitat Areas. The Commission has determined that the impacts to environmentally sensitive habitat in the El Segundo Dunes will be minimized and that unavoidable impacts will be satisfactorily mitigated through implementation of the Habitat Restoration Plan. However, the Commission must also apply the test of Section 30240(a) which states that within environmentally sensitive habitat areas, "only uses dependent on those resources shall be allowed within those areas." The FAA constructed the existing navigation aids located in the El Segundo Dunes between 1975 and 1977, and the Commission did not begin conducting federal consistency reviews until November 1978. As a result, no analysis occurred for consistency with the Section 30240(a) allowable use policy for the installation of the original navigation aids. Currently, however, the El Segundo Dunes is designated as an environmentally sensitive habitat and the proposed reconfiguration of the existing navigation aids is not a type of land use or development that is dependent on these coastal dune resources. The proposed installation of the new navigation aids and associated roads is therefore not consistent with the allowable use test of Section 30240(a) of the Coastal Act. As a result, the FAA is asserting that the proposed project is consistent to "the maximum extent practicable" with Section 30240(a).

As noted previously in Section VIII of this report, federal activities must be fully consistent with state coastal management programs unless:

> *. . . compliance is prohibited based upon the requirements of existing law applicable to the Federal agency's operations. If a Federal agency asserts that compliance with the management program is prohibited, it must clearly describe to the State agency the statutory provisions, legislative history, or other legal authority which limits the Federal agency's discretion to comply with the provisions of the management program.*

Previously in Section II.C. of this report, the Commission reviewed the references to federal statute, regulations, and FAA advisories provided by the FAA to support the agency's assertion that full compliance with Section 30240(a) of the Coastal Act is prohibited by the requirements of existing law applicable to the FAA. The Commission concluded in that section that there is a basis in the federal statutes that compels LAWA to comply with the FAA advisories and standards for the design of runways and taxiways at LAX, in particular, FAA Advisory Circular 150/5300-13, Airport Design. The proposed realignment of the two runways in the north airfield at LAX would consequently mandate the reconfiguration of the existing navigation aids in the El Segundo Dunes that support flight operations on those runways. As described previously in this

report, the FAA has designed the reconfiguration project to minimize effects on environmentally sensitive habitat and will implement a habitat restoration plan that will restore and enhance coastal dune habitat prior to the start of project construction.

Therefore, given the mandate for LAWA to comply with FAA standards for runway design, the FAA requirement to provide navigation aids for runway operations, a navigation aid reconfiguration plan that minimizes impacts to environmentally sensitive coastal dune habitat, and FAA's preparation of the El Segundo Dunes Habitat Restoration Plan, the Commission concludes that the proposed project is consistent to the maximum extent practicable with the environmentally sensitive habitat and wetlands policies (Section 30240 and 30233) of the Coastal Act.

B. Water Quality. The Coastal Act provides the following:

> *Section 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*
>
> *Section 30232. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

Section 4.7 of the LAX Master Plan Final EIR/EIS includes background information on water quality issues pertaining to LAX:

- *At LAX, surface water is discharged to both County of Los Angeles and City of Los Angeles drainage and flood control structures* [which drain into San Pedro Bay and Santa Monica Bay].

- *The existing drainage system at LAX consists of catchbasins, subsurface storm drains and open channels, and outfalls. The principal storm water outfalls for surface water captured on the airport property are the Dominguez Channel, the Argo Drain, the Imperial Drain, and the Culver Drain . . . In addition, the Vista del Mar sub-basin provides drainage for the portion of the airport west of Pershing Drive (i.e., the Dunes).*

- *Surface water flow from the Argo, Imperial, Culver, and Vista del Mar sub-basins contributes to the total surface water flow in the Santa Monica Bay Watershed. The Imperial drainage sub-basin is unique among the airport sub-basins in that it contains*

both a storm water detention basin for reducing peak flow to the outfall and a water quality retention basin for collecting dry weather and "first flush" storm flows from the airport.

- *LAWA has prepared a SWPPP* [Storm Water Pollution Prevention Plan] *to address the permitting of storm water discharges associated with industrial activities at LAX. . .The LAX SWPPP contains general information, such as drainage system layout and tenant and site activities; describes past and present potential sources of pollutants in storm water; designates programs to identify and eliminate non-storm water discharges; and describes the storm water management controls being implemented at LAX and the ongoing storm water monitoring program.*

- *As required under the SWRCB General Permit for Construction Activities, LAWA has prepared a Storm Water Guidance Manual for Construction Activities. This document outlines the procedures for preparing and implementing a construction SWPPP before beginning construction operations so that the activities are in compliance with the general permit.*

The Final EIR/EIS also includes a water quality analysis for the proposed Alternative D project. Relevant excerpts from that analysis are presented below:

- *LAWA would implement Master Plan Commitment HWQ-1, which would require the development of a conceptual drainage plan and design of a storm water system to meet the requirements in the SUSMP* [Standard Urban Storm Water Mitigation Plan] *through incorporation of source control, structural, and treatment control BMPs. By implementing Master Plan Commitment HWQ-1, the impact associated with the increased pollutant loads would be reduced to a level that is less than significant.*

- *With implementation of Master Plan Commitment HWQ-1, the LAX SWPPP* [Storm Water Pollution Prevention Plan] *would be amended to incorporate additional source control BMPs, if warranted, as well as changes in the frequency at which source control BMPs will be performed. As a result, the potential impact associated with increased pollutant loads due to increased industrial activity would be reduced to a level that is less than significant.*

- *Sources of dry-weather flows within* [LAX] *are associated with activities that include outdoor maintenance of vehicles, building and grounds maintenance, aircraft and ground vehicle fueling, painting, stripping, and washing; limited deicing; and chemical and fuel transport and storage. The intensification of these airport-related activities under Alternative D could result in release of spills and leaks of hazardous materials to the Dominguez Channel and Santa Monica Bay watersheds.*

- *Incorporation of source control, structural and treatment BMPs under Master Plan Commitment HWQ-1 would further reduce the potential for pollutants to enter the storm*

drain system and affect receiving water bodies. With implementation of this commitment, the pollutant load generated from dry weather flows would not be expected to increase and the associated impact would be less than significant.

- *Construction of the proposed improvements under Alternative D would affect an area greater than one acre, thus requiring LAWA to develop project-specific construction SWPPPs in compliance with the state's construction permit. To minimize the effect construction activities would have on water quality, the SWPPPs would specify temporary construction BMPs.*

The consistency certification summarizes potential water quality impacts from the proposed Alternative D:

To prevent impacts to the coastal zone and coastal waters from erosion and runoff at LAX, LAWA would implement Master Plan Commitment HWQ-1, as discussed in Section 4.7, Hydrology and Water Quality, of the Final EIR, related to preparing a Conceptual Drainage Plan prior to initiating construction. This plan would include the preparation of an airport-wide Standard Urban Storm Water Mitigation Plan (SUSMP) with BMPs to be incorporated into the LAX Storm Water Pollution Prevention Plan (SWPPP). LAWA also would comply with mitigation measure MM-HWQ-1, outlined in Section 4.7 of the Final EIR, to upgrade regional drainage facilities.

Alternative D, as with current operations at LAX, would involve the use and transport of oil and hazardous substances on the premises. As discussed in Section 4.23, Hazardous Materials, and Section 4.24.3, Safety, of the Final EIR, hazardous materials at LAX are stored at the Central Utility Plan, the Fuel Farm, and the CNG/LNG facility; none of these facilities lies within the coastal zone. To prevent and mitigate any impacts to LAX and the coastal zone associated with these facilities, each facility has safety and emergency response elements incorporated into its design, operation, and emergency response procedures, as discussed in detail in Section 4.24.3 of the Final EIR.

The consistency determination addresses potential water quality impacts from the proposed reconfiguration of navigation aids in the El Segundo Dunes:

To prevent impacts to the coastal zone and coastal waters from erosion and runoff associated with relocating the existing navigational aids, FAA would incorporate BMPs into the construction process for the navigational aids and associated service roads. Measures including BMPs to address potential erosion impacts associated with Project construction are specified in Section 4.7, Hydrology and Water Quality of the Final EIR for the LAX Master Plan Improvements.

The aforementioned "Master Plan Commitment HWQ-1 – Conceptual Drainage Plan" is LAWA's primary vehicle for addressing, reducing, and mitigating potential water quality

impacts from Alternative D development projects. The complete text of this document is provided in **Exhibit 21**. The introduction to this commitment states that:

> *Once a Master Plan alternative is selected, and in conjunction with its design, LAWA will develop a conceptual drainage plan of the area within the boundaries of the Master Plan alternative (in accordance with FAA guidance and to the satisfaction of the City of Los Angeles Department of public Works, Bureau of Engineering) . . . Best Management Practices (BMPs) will be incorporated to minimize the effect of airport operations on surface water quality and to prevent a net increase in pollutant loads to surface water resulting from the selected Master Plan alternative.*

The Commission's water quality staff submitted detailed comments on the water quality component of the initial version of the LAX Master Plan Draft EIS/EIR in September 2001 **(Exhibit 22)**. In those comments, Commission staff identified shortcomings in the water quality component and provided a number of recommendations to improve water quality protection during the construction and operation of the LAX improvements program. In brief, those recommendations focused on the details of the proposed HWQ-1 drainage plan, treatment of the 85th percentile/24-hour design storm, design of stormwater treatment facilities, determining baseline levels of pollutant loads, the range of pollutants to be monitored, flood control measures, dry weather runoff controls, and construction and operations BMPs. LAWA and FAA have agreed in concept to include these elements in the proposed HWQ-1 drainage plan.

The Commission notes that with the City of Los Angeles' recent approval of Alternative D as the preferred LAX development plan, the final design of the HWQ-1 drainage plan – upon which much of the water quality protection program will rest – can now proceed. The Commission acknowledges that while nearly all of the Alternative D development (excepting the reconfiguration of navigation aids in the El Segundo Dunes) will occur inland of the coastal zone, all of the stormwater and dry-weather runoff from a redeveloped LAX has the potential to enter Santa Monica Bay or San Pedro Bay. While it is clear that LAWA intends to implement a wide-ranging suite of water quality protection measures in concert with its Alternative D projects, and that the FAA intends to implement BMPs for navigation aids construction in the El Segundo Dunes (which will be an element of the HWQ-1 plan), the foundation of the LAX water quality control program – the HWQ-1 drainage plan – has yet to be developed. As a result, the Commission staff has requested that the FAA and LAWA submit that plan to the Commission staff for its review and concurrence prior to the start of any construction.

LAWA and the FAA have agreed as a part of this consistency certification and consistency determination to submit the draft and final versions of the HWQ-1 drainage plan to the Commission staff for review and comment. Upon receipt of the draft plan, the Commission staff will be able to determine: (1) if the plan adequately addresses the Commission staff's 2001 water quality comments and any subsequent concerns identified by Commission staff based on current information; and (2) if the plan is designed such that the proposed Alternative D developments would not adversely affect water quality in the coastal zone. If concerns are raised, the Commission retains the authority to "reopen" its federal consistency review and under the

provisions of Section 930.65 of the federal consistency regulations (15 CFR Part 930), and request appropriate remedial action in the event the Commission believes: (1) the previously-concurred with project could have an effect on coastal resources substantially different than originally described; and (2) the project is no longer consistent with the applicable CCMP policies.

With this commitment on the part of the LAWA and the FAA, and in conjunction with the water quality protection commitments contained in the consistency certification and consistency determination, the Commission concludes that the Alternative D LAX improvements project (CC-061-04) and the proposed reconfiguration of the navigation aids in the El Segundo Dunes (CD-062-04), are consistent with the water quality protection policies (Sections 30231 and 30232) of the Coastal Act.

C. Public Access. The Coastal Act provides the following:

Section 30210. In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211. Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212(a). Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

(1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,

(2) Adequate access exists nearby. . . .

Section 30214(a). The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

(1) Topographic and geologic site characteristics.

(2) The capacity of the site to sustain use and at what level of intensity.

(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses. . . .

Section 30252. The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.

(1) CC-061-04. The consistency certification states that proposed Alternative D improvements at LAX are located outside the coastal zone, except for the FAA navigation aids project (see below). Existing coastal access routes in the immediate project area would be maintained and proposed developments at LAX would not affect existing coastal access and recreational facilities at nearby Vista del Mar Park, Dockweiler State Beach, the South Bay Bike Trail, and along surface streets providing access to and along the shoreline. The current alignment of Pershing Drive would not be affected and vehicle, bicycle, and pedestrian access along Pershing Drive would remain unchanged.

The consistency certification addresses potential coastal access impacts from vehicular traffic levels associated with the proposed Alternative D. Existing vehicular, bicycle, and pedestrian access conditions are examined first:

Vehicular access to the coast in the vicinity of LAX is provided via Westchester Parkway to Pershing Drive to various residential streets. Sandpiper Street (which connects Pershing Drive and Vista del Mar) no longer provides vehicular access to the coast as it has been closed for security purposes following the events of September 11, 2001. Vehicular access to the coast is also provided via Imperial Highway along the southern perimeter of LAX. Farther south, within the City of El Segundo, coastal access is provided by Grand Avenue. Currently, residents of El Segundo can access Imperial Highway from two access points: Main Street and California Street. Vehicles can proceed westbound to the coast or eastbound on Imperial Highway from either of these streets. Parking is available at Dockweiler State Beach and along Vista del Mar.

Bicycle access is provided by a network of bicycle lanes and bicycle paths, which is shown in Figure F4.14-4, Existing and Proposed Bicycle Access in the LAX Vicinity, in the Final EIR. A Class I bicycle path, which provides exclusive bicycle rights-of-way separate from vehicular traffic, is located along the coast between Vista del Mar and the Pacific Ocean from north of LAX near Marina del Rey to Grand Avenue south of LAX. Although Vista del

Mar is not a designated bicycle route, bicyclists can ride on the shoulder of the street parallel to the coast. Access to the coastal bicycle path is available via bicycle lanes on Grand Avenue and Imperial Highway. The bicycle lane on Imperial Highway extends from east of Aviation Boulevard to Vista del Mar. There are also bicycle lanes on Westchester Parkway along the northern boundary of LAX. Bicyclists can access the coast by traveling westbound along Westchester Parkway to Pershing Drive and, from Pershing, connecting with various residential streets near the terminus of Westchester Parkway.

Currently, pedestrian access to the coast in the immediate vicinity of LAX is limited. Within the City of El Segundo, pedestrian access is provided by a footpath connecting Imperial Avenue with Imperial Highway near Hillcrest Street. Sidewalks are available intermittently along the south side of Imperial Highway; pedestrians can walk along the shoulder of the roadway where there are no sidewalks. Within the northern portion of LAX, there are sidewalks along Westchester Parkway, but there are no connecting sidewalks along Pershing Drive.

Next, potential effects on vehicular, bicycle, and pedestrian access from proposed Alternative D developments are examined:

As discussed in Section 4.14, Coastal Zone Management and Coastal Barriers of the Final EIR, because Alternative D would not shift the airport's primary passenger activity center closer to the coast, there would be limited impact to existing coastal access.

Under Alternative D, all of existing coastal access routes would remain in their baseline configurations. The only components of Alternative D that would be nearby or en route to the coast are the LAX Northside development and the west employee parking garage on World Way West. However, neither of these developments would alter the existing coastal access routes, although they would increase the number of vehicles on roadways that provide access to the coast.

Alternative D would not alter existing bicycle access to the coast. In addition, under Master Plan Commitment LU-5, included in Section 4.2, Land Use of the Final EIR, LAWA would comply with municipal bicycle policies and plans, including the City of Los Angeles Transportation Element Bicycle Plan, and would provide maximum feasible incorporation of bike paths and lanes into the Master Plan circulation systems. In addition, bicycle access and parking facilities would be provided at the GTC, ITC, and major parking lots. Related facilities, such as lockers and showers, would also be provided where feasible to promote employee bicycle use.

As discussed in Section 4.14 pedestrian access to the coast would continue to be limited under Alternative D. The existing footpath connecting Imperial Avenue and Imperial Highway would not be affected under this alternative. However, the proposed changes in ground access to LAX do not include the provision of new sidewalks. Sidewalks are not currently available along the full length of Imperial Highway under baseline conditions. Pedestrians would continue to be able to walk along the shoulder of Imperial Highway to the coast.

As noted above, under Alternative D, a new four-story, 12,400-stall employee parking garage would be constructed on the west side of the airport, south of World Way West and east of Pershing Drive. This garage would replace and consolidate the various surface parking lot spaces located throughout the airport into one garage, and employees using this facility would be shuttled to their workplaces across the LAX complex. The consistency certification examines this proposed structure and associated projects intended to lessen potential impacts on traffic in the area:

As detailed in Table F4.3.2-30, Off-Airport Surface Transportation Phasing Plan, included in Section 4.3.2, Off-Airport Surface Transportation of the Final EIR, construction of the new west employee parking structure would be accompanied by number other off-site improvements. These are listed below:

1. *Complete off-site intersectional improvements at:*

    - *Grand Avenue and Vista del Mar*
    - *Highland Avenue/Vista del Mar and Rosecrans Boulevard*
    - *Imperial Highway and Main Street*
    - *Imperial Highway and Pershing Drive*
    - *Imperial Highway and Sepulveda Boulevard*
    - *Imperial Highway and Vista del Mar*
    - *Jefferson Boulevard and Lincoln Boulevard*
    - *Lincoln Boulevard and Manchester Avenue*
    - *Lincoln Boulevard and Teale Street*
    - *Rosecrans Avenue and Sepulveda Boulevard*
    - *83rd Street and Lincoln Boulevard;*

2. *Provide a fair-share contribution to LA County's "Marina Expressway to Admiralty Way" project OR complete alternative off-site intersectional improvements at the following intersections:*

    - *Bali Way and Lincoln Boulevard*
    - *Fiji Way and Lincoln Boulevard*
    - *Lincoln Boulevard and Marina Expressway*
    - *Lincoln Boulevard and Maxella Avenue*
    - *Lincoln Boulevard and Mindanao Way*
    - *Lincoln Boulevard and Washington Boulevard*

3. *Provide a fair-share contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger or additional buses from those planned by the LAC-MTA or paying the cost of retrofitting*

some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections:

- *Imperial Highway and Sepulveda Boulevard*
- *Jefferson Boulevard and Lincoln Boulevard*
- *Lincoln Boulevard and Manchester Avenue*
- *Lincoln Boulevard and Marina Expressway*
- *Lincoln Boulevard and Teale Street*
- *Lincoln Boulevard and Washington Boulevard*

The proposed Alternative D improvements at LAX are sited in areas outside the coastal zone (excepting the navigation aids project, below) and will not directly affect existing access or recreation facilities in the coastal zone. As noted above, the proposed employee parking structure at the west end of the airport (southeast of the intersection of Pershing Drive and World Way West) would increase the number of vehicles using Pershing Drive, which is a vehicle and bicycle route inland of and parallel to the shoreline and which provides access to the coastal zone. The consistency certification submitted by LAWA outlines the numerous street and intersection improvements and the public transportation enhancements that would be implemented to mitigate potential adverse traffic impacts generated by the parking facility (see above). In addition, under LAX Master Plan Commitment LU-5, LAWA has agreed to comply with the City of Los Angeles Transportation Element Bicycle Plan and to this end would also:

. . . provide maximum feasible incorporation of bike paths and lanes into the Master Plan circulation systems. In addition, bicycle access and parking facilities would be provided at the GTC, ITC, and major parking lots.

It is difficult to accurately predict at this point in time the potential adverse impacts to coastal access – and their significance – from the proposed LAX Alternative D improvements, due to their location inland of the coastal zone, a facilities construction schedule that extends through the year 2014, and the implementation uncertainty that is inherent in a project of this complexity and controversy. This challenge is compounded by further uncertainties in anticipating future increases in traffic volumes on major surface arterials providing access to the coast in this area, and over which the Commission has no control, as a result of: (1) other traffic-generating projects in the LAX area that could be developed over the next ten years; (2) the growth in LAX-related traffic that would occur under a No Action/No Project alternative; or (3) the outcome of inexorable population and economic growth in the region with its concurrent increase in vehicle trips in the LAX area. Based on the available information and commitments made at this time, the Commission concludes that the proposed Alternative D project, as it is implemented over the next ten years in conjunction with the aforementioned surface transportation measures, will not adversely impact coastal access routes in the areas adjacent to LAX significantly beyond that which can be reasonably expected to occur in this area absent the Alternative D project.

Therefore, the Commission concludes that the project is consistent with the public access policies (Sections 30210, 30211, 30212, 30214, and 30252) of the Coastal Act.

(2) CD-062-04. The consistency determination examines potential effects on public access from the proposed reconfiguration of navigation aids in the El Segundo Dunes:

> *Relocation of the existing navigational aids would occur within an area owned by LAX that lies within the coastal zone. This area is, and will continue to be, secured from public access due to airport safety and national security needs. Coastal access is, and would continue to be, allowed on the public roads outside of the secured area . . . Development activities related to the relocation of existing navigational aids would not interfere with public access to the sea nor affect lower cost visitor and recreational facilities.*

The proposed reconfiguration of and improvements to the navigation aids system located in the El Segundo Dunes will not affect public access to and along this section of the coastal zone. As noted above, the navigation aids are located in an area long-closed to public access due to airport safety and operations requirements, and due to the environmentally sensitive nature of the dunes habitat. The proposed reconfiguration of the existing navigational aids would not alter these existing public access restrictions. Therefore, the Commission concludes that the proposed navigation aids project will not adversely affect public access and is consistent with the public access policies (Sections 30210, 30211, 30212, 30214, and 30252) of the Coastal Act.

D. Visual Resources.

Section 30251 of the Coastal Act provides:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

LAWA's consistency certification examines the potential visual resource impacts arising from proposed Alternative D projects:

> *The majority of proposed Alternative D improvements at LAX are substantially outside of, and not visible from, the coastal zone surrounding LAX. As discussed in FAA's consistency determination, the relocated navigational aids would not be visible from surrounding streets. Under Alternative D, a four-level employee parking structure is proposed on property in the western portion of LAX (east of the coastal zone). As discussed in Section 4.21, Design, Art and Architecture Application/Aesthetics, of the Final EIR, views of the*

employee parking structure from the coastal zone would be limited and would not represent an aesthetic or view impact to the scenic and visual qualities of the coastal zone.

The FAA's consistency determination examines the potential visual resource impacts generated by the reconfigured navigation aids in the El Segundo Dunes:

The navigational aids proposed to be relocated in conjunction with Alternative D would generally be similar in size and design to the existing facilities that have existing in the dunes for decades, and would continue to exist irrespective of Alternative D. Similar to the existing navigational aids, the relocated navigational aids would not be readily apparent from either Pershing Drive or Vista del Mar. The area of the Los Angeles/El Segundo Dunes in which the existing and proposed navigational aids are located is fenced off with green security fencing to prevent public access. The design of navigational aids is mandated by FAA standards, and due to the strict safety specifications, the aesthetic appearance of the navigational aids cannot be changed in any way.

The only element of the Alternative D project that could be visible from the coastal zone is the proposed four-story employee parking garage southeast of the intersection of Pershing Drive and World Way West. However, this facility would only be visible from Pershing Drive and would not be visible from coastal recreational areas at Dockweiler State Beach, Vista del Mar Park, and the South Bay Bike Trail. The view eastward from Pershing Drive across the western end of the LAX complex would not be significantly altered by the parking garage, whose presence would be consistent with the existing aviation-related development in this area. The visibility of the reconfigured navigation aids from coastal zone vantage points is minimal, would be similar in nature to the existing aids, and would not adversely affect coastal views to or along the shoreline from points west of the El Segundo Dunes. Therefore, the Commission concludes that the proposed Alternative D project (CC-061-04) and the proposed navigation aids project (CD-062-04) are consistent with the visual resource policies (Section 30251) of the Coastal Act.

E. Cultural Resources. Section 30244 of the Coastal Act provides:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

The Final EIR for the LAX project reports that the project area lies within a region that was occupied during the late prehistoric period by Native American groups now known as the Gabrielino. The Gabrielino may have numbered as many as 5,000 people at their peak in the pre-European contact period (approx. 1769) in the Los Angeles basin. The consistency certification addresses the potential presence of cultural resources in the project area as follows:

The proposed Alternative D improvements at LAX would not directly or indirectly affect any known archaeological or paleontological resources within the coastal zone. According to previous archaeological and paleontological surveys, as discussed in Section 4.9,

Historic/Architectural and Archaeological/Cultural and Paleontological Resources, of the Final EIR, no known archaeological or paleontological resources exist within the coastal zone area of the LAX property . . .

The consistency determination additionally states that relocation of the existing navigational aids would not directly or indirectly affect any known archaeological or paleontological resources in the El Segundo Dunes.

Both submittals include a commitment that in the event that previously unidentified cultural, archaeological, and/or paleontological resources are discovered during construction activities, implementation of mitigation measures described in the Final EIR would eliminate the potential for adverse impacts to these resources. Mitigation measures MM-HA-4 through MM-HA-10 address cultural resource discovery, monitoring, excavation and recovery, administration, reporting, curation, and notification and are provided in **Exhibit 23**. Mitigation measures MM-PA-1 through MM-PA-7 address paleontological resource discovery, monitoring, collection, and reporting and are provided in **Exhibit 24**. With these measures, the Commission concludes that the proposed Alternative D project at LAX (CC-061-04) and the reconfiguration of the navigation aids in the El Segundo Dunes (CD-062-04) would not adversely affect cultural resources, and that the projects are consistent with the cultural resource policy (Section 30244) of the Coastal Act.

X. Substantive File Documents.

1. Coastal Development Permits: 5-86-217G (Interim Habitat Restoration for El Segundo Blue Butterfly at El Segundo Dunes, City of Los Angeles Department of Airports); 5-87-777 (Habitat Restoration at El Segundo Dunes, City of Los Angeles Department of Airports); 5-90-1149 (Interim Habitat Restoration at El Segundo Dunes, City of Los Angeles Department of Airports); 5-92-131 (El Segundo Dunes Restoration Program, City of Los Angeles Department of Airports).

2. Consistency Certification CC-058-01, Santa Barbara Municipal Airport Improvements, City of Santa Barbara.

3. Long-Term Habitat Management Plan for Los Angeles Airport/El Segundo Dunes. City of Los Angeles Environmental Affairs Department, June 23, 1994.

4. Supplement to the Draft Environmental Impact Statement/Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements. Federal Aviation Administration et.al., July 2003.

5. Los Angeles International Airport Proposed Master Plan Improvements, Final Environmental Impact Report. City of Los Angeles, April 2004.

6. Los Angeles/El Segundo Dunes Habitat Restoration Plan. Federal Aviation Administration, October 29, 2004.

APPENDIX A

Los Angeles/El Segundo Dunes Habitat Restoration Plan

(Note: The detailed planting and irrigation specifications (Appendices A and B of the Habitat Restoration Plan) and a background document on the Los Angeles/El Segundo Dunes (Appendix C of the Habitat Restoration Plan) are not included in this Appendix.)

LOS ANGELES/EL SEGUNDO DUNES HABITAT RESTORATION PLAN

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SECTION 1.0
INTRODUCTION

The U.S. Department of Transportation Federal Aviation Administration (FAA) intends to issue its Record of Decision (ROD) in support of the Final Environmental Impact Report (EIR) for the Los Angeles International Airport (LAX) Master Plan in February 2005.[1] Prior to issuance of the ROD, the FAA is seeking the California Coastal Commission's (CCC's) consistency concurrence with the FAA's Coastal Consistency Determination for Relocation of Existing Navigational and Safety Aids[2] in support of Alternative D of the LAX Master Plan. At the request of CCC staff, the FAA is submitting this coastal dune Habitat Restoration Plan for the Los Angeles/El Segundo Dunes (Dunes) at LAX to the CCC in support of the Coastal Consistency Determination pursuant to Section 930.32 *et seq.* of the National Oceanic and Atmospheric Administration Federal Consistency Regulations (Title 15, *Code of Federal Regulations*, Part 930).

This Habitat Restoration Plan (Plan) for the Dunes was developed following guidelines provided to the FAA (Mr. David Kessler) by the CCC (Mr. John Dixon).[3] The Plan provides for the establishment and/or enhancement of (referred to herein as "the restoration of") 5.8 acres of coastal dune habitat within the Dunes to mitigate impacts to 2.92 acres of coastal dune habitat resulting from the installation of navigational aids in support of Alternative D (1.53 acres) and the disturbance associated with the removal of existing navigational aids (1.4 acres). The amount of mitigation is consistent with the 2:1 mitigation ratio requested by the CCC. It is understood that the feasibility of the ultimate restoration of areas where navigational aids are to be removed may be further reviewed and evaluated by the CCC and FAA. However, the Plan assumes that all areas where navigational aids are scheduled for removal will be restored to the appropriate coastal dune plant community.

Located at the western terminus of LAX, the 302-acre Dunes are bound on the north by Napoleon Street and Waterview Street, on the south by Imperial Highway, on the east by Pershing Drive, and on the west by Vista del Mar Boulevard. The subject area contains environmentally sensitive areas, as defined in Section 30107.5 of the California Coastal Act (CCA) of 1976, as amended. Pursuant to Section 30240 of the CCA, Environmentally Sensitive Habitat Areas (ESHAs) shall be protected against any significant disruption of habitat values. Additionally, in 1992, the City of Los Angeles, by way of Ordinance No. 167940, established the 302–acre site as the Los Angeles Airport/El Segundo Dunes Specific Plan "in order to restore and preserve the natural ecology of the Dunes and those native dune-dependent species that exist thereon" consistent with the CCA, as amended. Within the 302-acre site, that is located entirely within the California Coastal Zone Boundary, the ordinance additionally established a 200-acre ecosystem preserve currently designated as the El Segundo Blue Butterfly Habitat Restoration Area (HRA) and home to the federally endangered El Segundo blue butterfly. Section 3 of the ordinance describes land use regulations for the specific plan area. Subsection F of Section 3 states "notwithstanding any other provisions of this Specific Plan, no use, development or activity regarding the Specific Plan Area may compromise the safety

[1] City of Los Angeles. April 2004. *Final Environmental Impact Report*. Available at: http://www.laxmasterplan.org.

[2] U.S. Department of Transportation, Federal Aviation Administration. August 2004. Federal Aviation Administration, Los Angeles International Airport, City of Los Angeles, California Coastal Consistency Determination for Relocation of Existing Navigational Aids. Contact: U.S. Department of Transportation, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591.

[3] Dixon, J. 30 September 2004. "Suggested language for a filing requirement for a Restoration and Monitoring Plan when resource impacts and mitigation are anticipated." Contact: California Coastal Commission, 45 Fremont, Suite 2000, San Francisco, CA 94105.

of airport flight operations in any way. Final authority for determining whether airport flight operation safety is compromised rests with the Federal Aviation Administration."

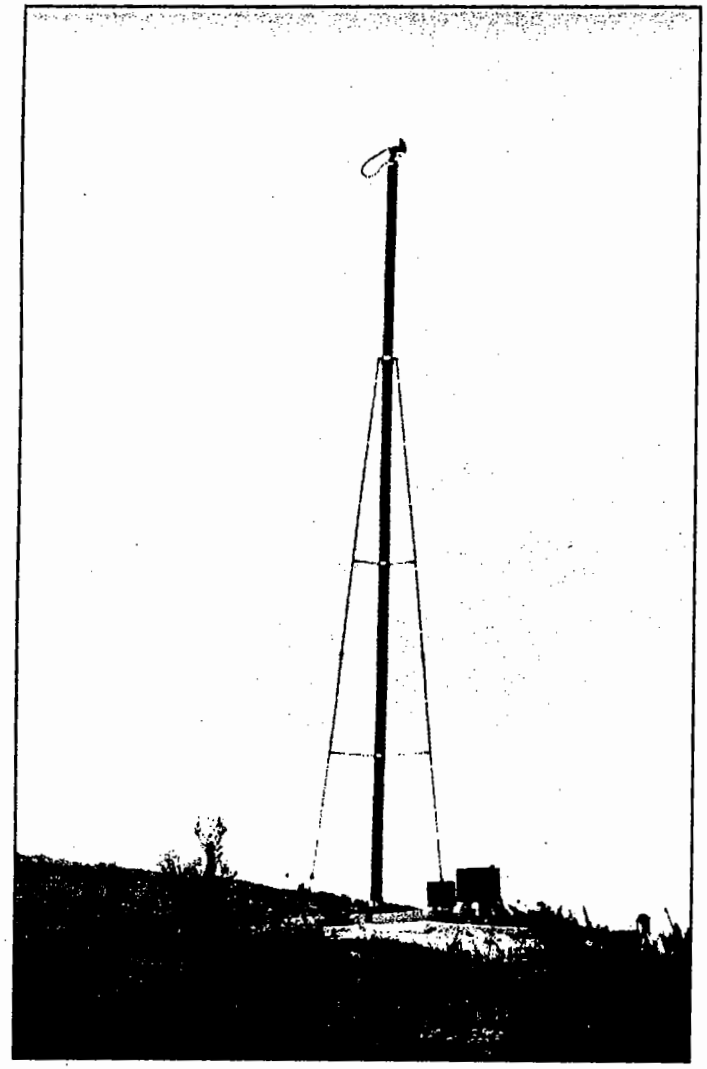
In accordance with the Federal Coastal Zone Management Act of 1972 (CZMA), as amended, the FAA has determined that the relocation of existing navigational aids and associated service roads at LAX is consistent, to the maximum extent practicable, with the California Coastal Management Program (CCMP) pursuant to the requirements of the CZMA and the CCA, as amended. This determination was based on a consistency analysis between policy sections of the CCC (Division 20, California Public Resources Code) and FAA proposals and actions at LAX within the California Coastal Zone Boundary, specifically the proposed relocation of existing navigational and safety aids in support of Alternative D of the LAX Master Plan.

Under Alternative D, a navigational aid system known as Approach Lighting System (Flashing)-2 (ALSF-2) and associated service roads would be constructed (Figure 1-1, *ALSF-2 Towers in the Los Angeles/El Segundo Dunes*). The ALSF-2 consists of 23 lighting standards spaced at 100 feet with upwardly directed lighting that would be used during nighttime for aircraft approaching LAX from the west when low visibility Santa Ana conditions (strong easterly winds) are present. During normal operations, only one-half of the lights would be illuminated. The construction of navigational aids and associated service roads would result in impacts to 66,675 square feet (1.53 acres) of state-designated sensitive habitat within the Dunes (Figure 1-2, *Location of Proposed Navigational Aids - Alternative D*). Of the 1.53 acres of impact to the Dunes, 0.77 acres are located within the HRA, 0.24 acres of which are habitat for the El Segundo blue butterfly. Additionally, an estimated 1.4 acres of state-designated sensitive habitat will be impacted by the removal of existing navigational aids. Mitigation for impacts to 2.92 acres will take place at a 2:1 ratio for a total 5.8 acres.

Measures to compensate for the conversion of 1.53 acres of habitat within the Dunes are described in the Final EIR for the LAX Master Plan. However, impacts associated with the removal of existing navigational aids are not addressed in the Final EIR because it was anticipated that the navigational aids would be abandoned in place. However, the CCC has requested that the existing navigational aids be removed. Thus, this Habitat Restoration Plan revises those mitigation measures that compensate for impacts within the California Coastal Zone Boundary pursuant to ongoing coordination and discussions between the FAA and CCC. Revisions to the measures include the designation of the FAA as being responsible for the design, implementation, maintenance, and monitoring of measures that compensate for impacts within the California Coastal Zone Boundary. Additionally, revisions incorporate a 2:1 ratio for impacts resulting from the permanent conversion of 1.53 acres of habitat within the Dunes, as well as the estimated impact to 1.4 acres as a result of the removal of navigational aids no longer required to guide aircraft that approach LAX from the west. A total of 5.8 acres will be restored pursuant to this Habitat Restoration Plan: 4.4 acres within Subsite 23 and 1.4 acres "in situ." The revised mitigation measures are summarized below.

MM-BC-1: CONSERVATION OF STATE-DESIGNATED SENSITIVE HABITAT WITHIN AND ADJACENT TO THE EL SEGUNDO BLUE BUTTERFLY HABITAT RESTORATION AREA

The FAA, or its designee, shall take all necessary steps to ensure that the state-designated sensitive habitats within and adjacent to the HRA are conserved and protected during construction, operation, and maintenance, by the implementation of construction avoidance measures, as described in this Habitat Restoration Plan.



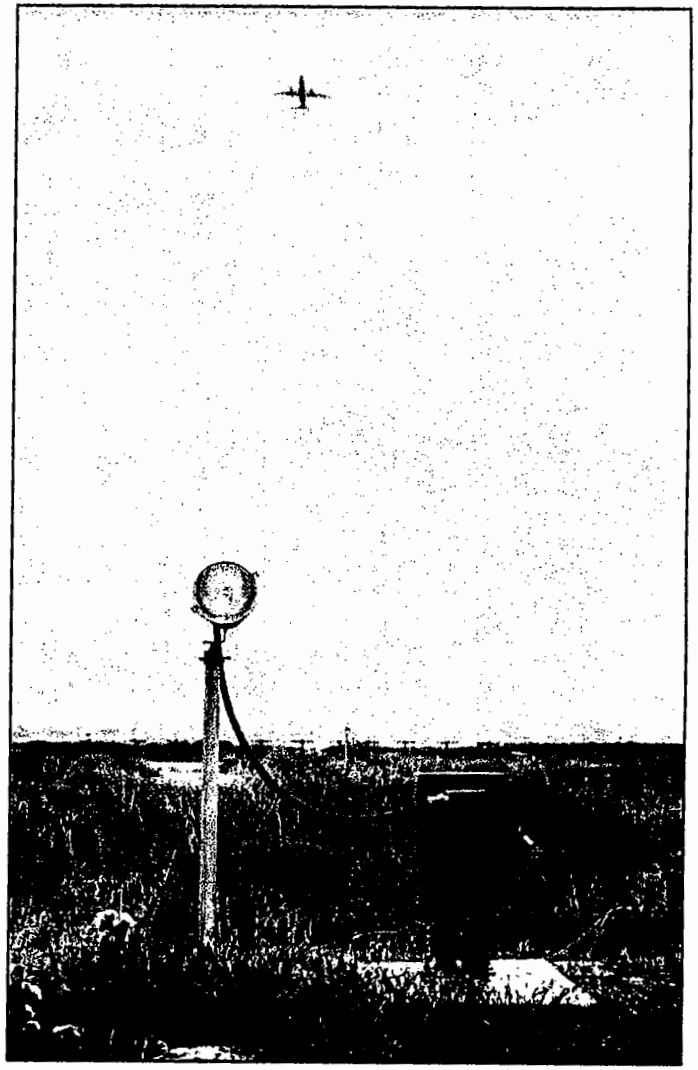


FIGURE 1-1
ALSF-2 Towers in the Los Angeles/El Segundo Dunes

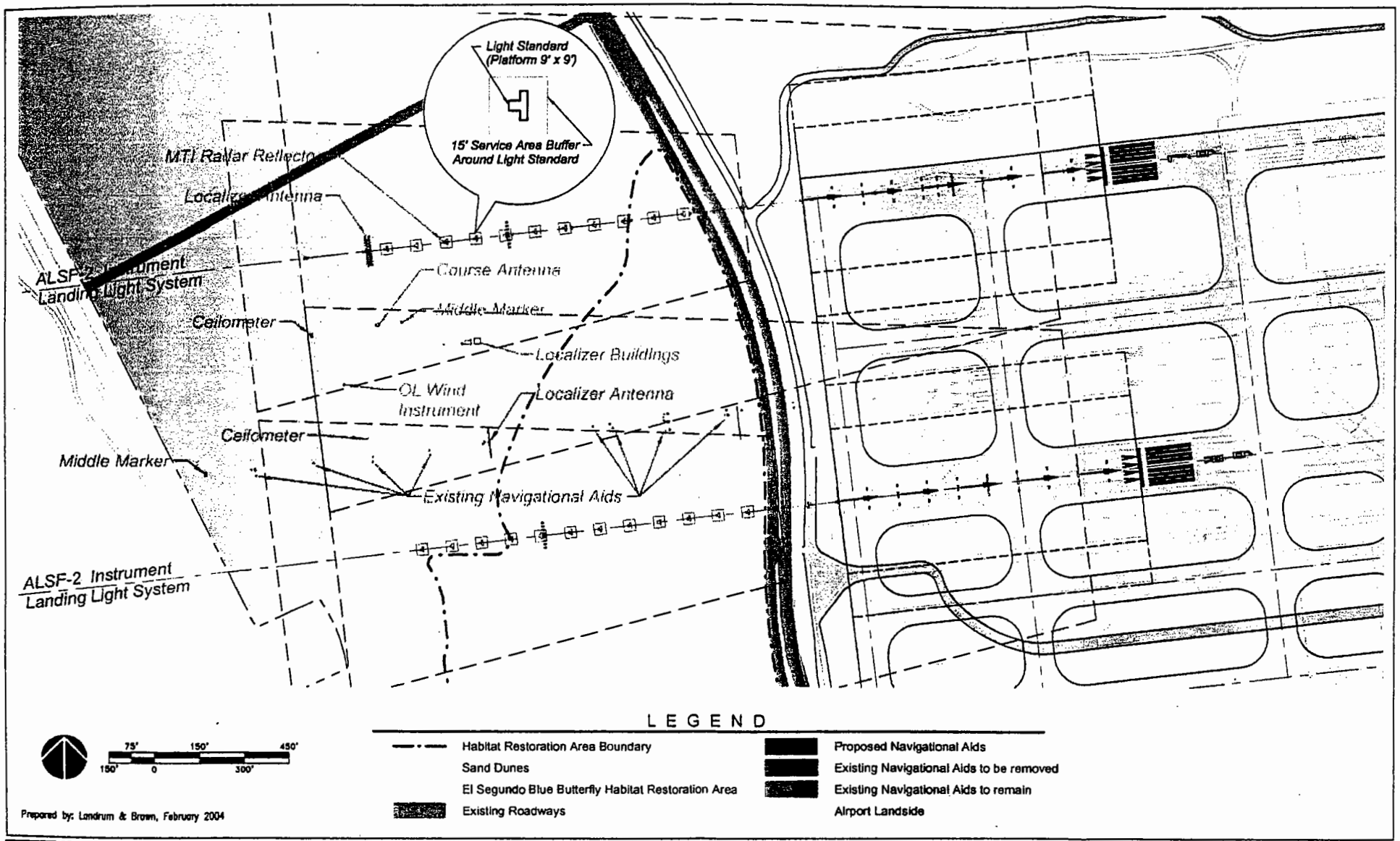


FIGURE 1-2
Location of Proposed Navigational Aids - Alternative D

MM-BC-2: CONSERVATION OF FLORAL RESOURCES: LEWIS' EVENING PRIMROSE

The FAA, or its designee, shall implement a plan to compensate for the loss of individuals of the sensitive Lewis' evening primrose, currently located within the HRA, as described in this Habitat Restoration Plan.

MM-BC-9: CONSERVATION OF FAUNAL RESOURCES

The FAA, or its designee, shall conduct preconstruction surveys to determine the presence of individuals of sensitive arthropod species, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl within the proposed area of impact in the Dunes. Surveys will be conducted at the optimum time to observe these species. Should an individual be observed, they will be relocated to suitable habitat for that species within the HRA, as described in this Habitat Restoration Plan.

MM-BC-13: REPLACEMENT OF STATE-DESIGNATED SENSITIVE HABITAT

The FAA, or its designee, will restore at a 2:1 ratio impacts to 1.4 acres of state-designated sensitive habitat to the appropriate state-designated sensitive plant community. An estimated 1.4 acres of state-designated sensitive habitat currently occupied by navigational aids that are scheduled for removal have the potential of being disturbed during removal activities. A total of 2.92 acres will be restored, with 1.4 acres taking place "in situ" and 1.4 acres taking place within Subsite 23 of the HRA, as described in this Habitat Restoration Plan. Implementation of MM-ET-4 and MM-BC-13 will provide for a total of 4.4 acres of Southern Foredune habitat within Subsite 23. Table 1-1, *Impacts Associated with the Removal of Navigational Aids,* describes the impacts associated with navigational aid removal.

TABLE 1-1
IMPACTS ASSOCIATED WITH THE REMOVAL OF NAVIGATIONAL AIDS

Impact Areas	Southern Foredune (acres)	Valley Needlegrass Grassland (acres)
Los Angeles/El Segundo Dunes*	1.19	0.20
Habitat Restoration Area	0	0.20
El Segundo Blue Butterfly–occupied habitat	0	0

NOTE:
*A total of 1.39 acres of the Los Angeles/El Segundo Dunes is impacted as a result of the removal of navigational aids.

MM-ET-4: EL SEGUNDO BLUE BUTTERFLY CONSERVATION: HABITAT RESTORATION

The FAA, or its designee, shall restore 3.0 acres of coastal dune habitat designated as Southern Foredune[4] within Subsite 23 of the HRA and relocate coast buckwheat individuals that have the potential to be impacted as a result of the installation of ALSF-2 navigational aids in support of Alternative D. In conformance with the Biological Opinion issued by the U.S. Fish and Wildlife Service (USFWS) on April 20, 2004, for the Alternative D of the LAX Master Plan, activities associated with navigational aid development shall be limited to the existing roads and proposed

[4] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

impacts areas, as described in the Final EIR. Habitat restoration will take place at a minimum of three years prior to the impact (scheduled for 2012–2013), as described in this Habitat Restoration Plan. Implementation of MM-ET-4 and MM-BC-13 will provide for a total of 4.4 acres of Southern Foredune habitat within Subsite 23. Table 1-2, *Impacts Associated with the Installation of Navigational Aids in Support of Alternative D*, describes the impacts associated with navigational aid installation.

TABLE 1-2
IMPACTS ASSOCIATED WITH THE INSTALLATION OF NAVIGATIONAL AIDS IN SUPPORT OF ALTERNATIVE D

Impact Areas	Southern Foredune (acres)	Valley Needlegrass Grassland (acres)
Los Angeles/El Segundo Dunes*	0.87	0.66
Habitat Restoration Area	0.24	0.53
El Segundo Blue Butterfly–occupied habitat	0.24	0

NOTE:
*A total of 1.53 acres of the Los Angeles/El Segundo Dunes is impacted as a result of the installation of navigational aids.

SECTION 2.0
EXISTING CONDITIONS

2.1 PROJECT LOCATION

The Los Angeles/El Segundo Dunes (Dunes), which lie between the west end of the Los Angeles International Airport (LAX) and the Pacific Ocean, are the largest remaining representation of coastal dune community within Southern California (Figure 2.1-1, *Regional Location Map*). Formerly known as the "Airport/El Segundo Dunes," the 302-acre Dunes site is bordered by Napoleon and Waterview Streets on the north, Imperial Highway on the south, Pershing Drive on the east, and Vista del Mar on the west (Figure 2.1-2, *Project Location*). The site is owned and managed by Los Angeles World Airports (LAWA).

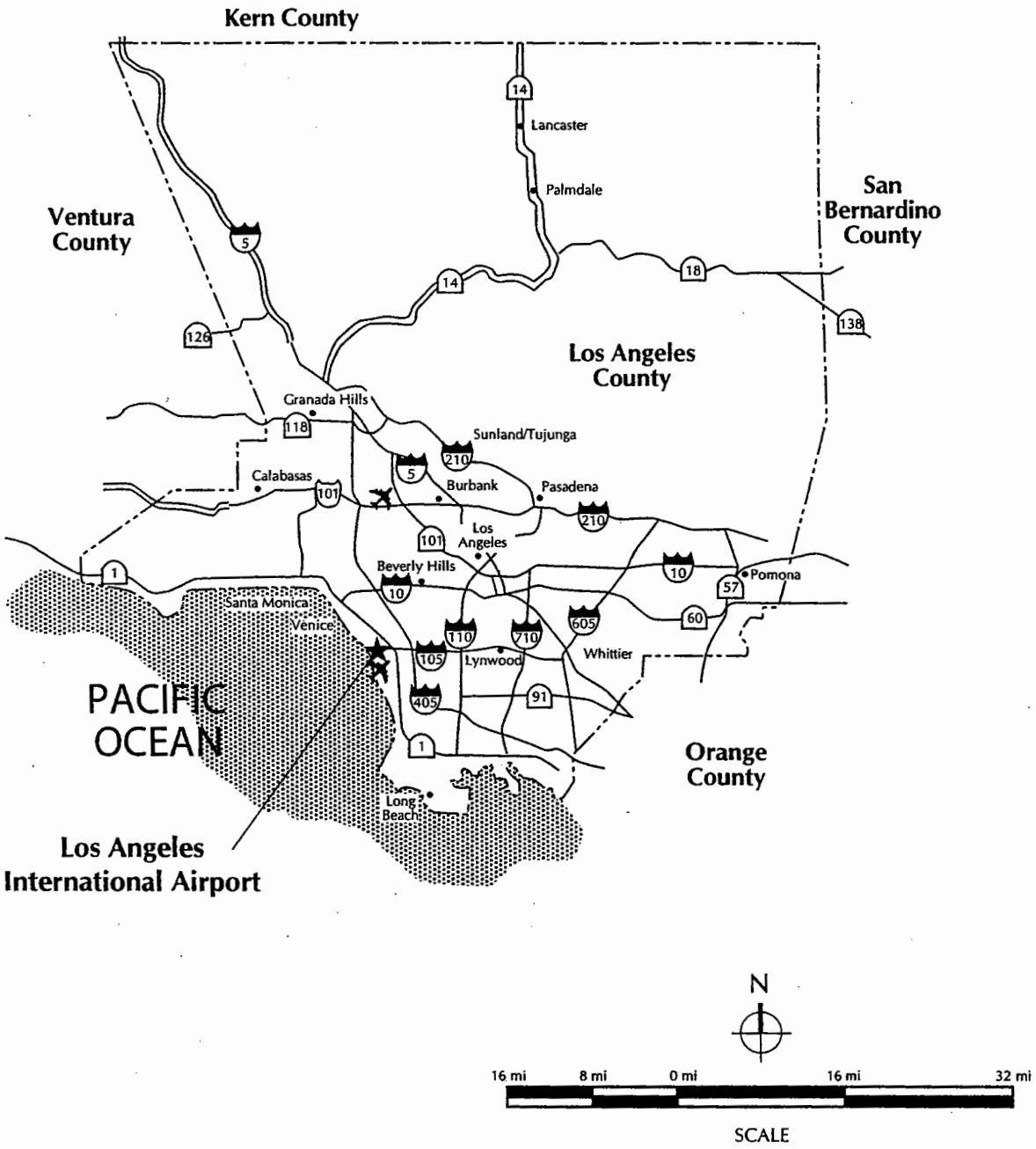
2.2 ECOLOGICAL SIGNIFICANCE OF THE LOS ANGELES/EL SEGUNDO DUNES

The ecological significance of the Dunes is recognized by both federal and state governments, as well as by the City and County of Los Angeles and the California Coastal Commission (CCC). In spite of a long history of land disturbance and increasing isolation from related habitats, the Dunes are unique in their richness of sand-obligate species (species whose survival depends on the free flowing sand characteristic of dunes systems) and in the number of sensitive species or species of limited distribution that inhabit them. Among the Dunes sensitive species is the federally-endangered El Segundo blue butterfly (*Euphilotes battoides allyni*), whose habitat is now reduced to a few coastal dune fragments between Playa del Rey and Malaga Cove. The Dunes are reported to support over 900 species of plant and animals; at least 35 of these species, including the El Segundo blue butterfly, are limited in range to Southern California dunes.[5]

As early as 1972, even before all houses had been removed from the Dunes for reasons of public safety for airport operations, the County of Los Angeles Environmental Resource Committee, in recognition of the Dunes' ecological value, identified the Dunes as a high priority habitat area that should be restored and preserved. The County of Los Angeles (County) designated the Dunes a Significant Ecological Area (SEA No. 28) in the 1976 revised County General Plan. The Southern California Association of Governments included the Dunes among its designated "Areas of Regional Significance and Concern," recommending that the entire area be preserved and restored. The Dunes area was also designated as an Environmentally Sensitive Habitat Area (ESHA) pursuant to Section 30240 of the California Coastal Act (CCA) of 1976, as amended. Southern coastal dune habitat is considered by the Heritage program of the California Department of Fish and Game (CDFG) to be amongst the most highly imperiled natural communities in California. Forming a continuum in response to topography and proximity to the ocean, southern coastal dune habitat at the Dunes is expressed as Southern Foredune, Southern Dune Scrub, and Valley Needlegrass Grassland according to the Holland classification of natural communities.[6] All three plant community types—Southern Foredune, Southern Dune Scrub, and Valley Needlegrass Grassland—are considered state-designated sensitive plant communities. Finally, the International Union for Conservation of Nature and Natural Resources (IUCN) listed the Dunes as a "Threatened

[5] Mattoni, R.H.T. 1990. "Species Diversity and Habitat Evaluation Across the El Segundo Sand Dunes at LAX." Prepared by: Mattoni, R.H.T., Agresearch, Inc. Prepared for: The Board of Airport Commissioners, One World Way West, Los Angeles, CA 90009.

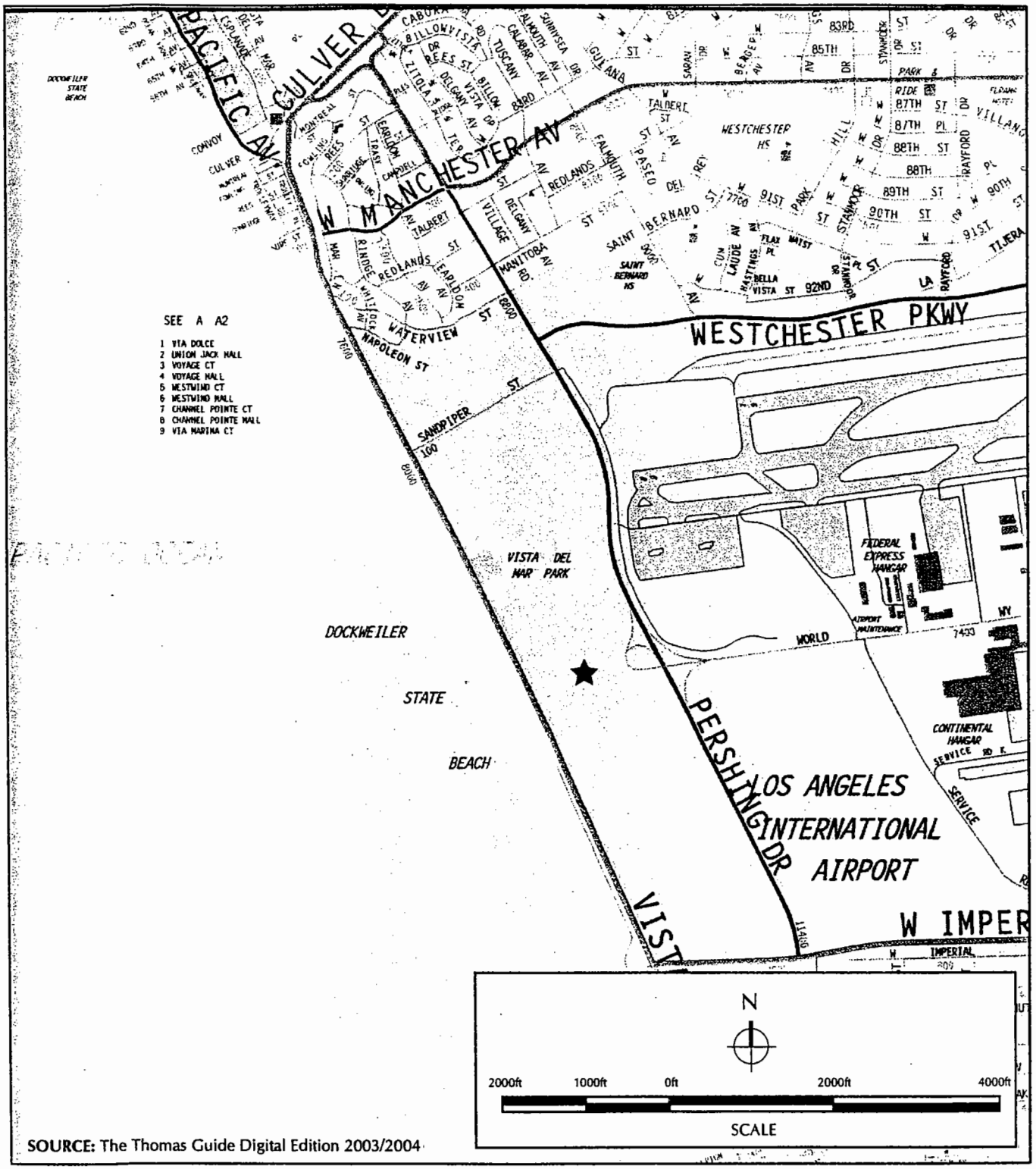
[6] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.



LEGEND

★ Project Location

FIGURE 2.1-1
Regional Location Map



SOURCE: The Thomas Guide Digital Edition 2003/2004

LEGEND

★ El Segundo Dunes

FIGURE 2.1-2
Project Location

Community" in their IUCN Invertebrate Red Data Book, published in 1983, noting the site's ecological significance as habitat for several endemic invertebrates and populations of vulnerable plants.

As a result of a protracted planning history, 200 acres of the site are now designated in the City of Los Angeles Conservation Plan as an "Ecologically Important Area" and as the "Dunes Habitat Preserve," or simply "Preserve," in the Draft Los Angeles/El Segundo Dunes Specific Plan. Restoration efforts, which began in the late 1980s and were completed in 1994, have received wide support from the scientific community, local elected officials, state and federal resource agencies, and the general public.

2.3 BIOTIC COMMUNITIES

Biotic communities are typically named for the dominant or characteristic floral components that comprise the community. Biotic communities are consistent with the descriptions provided in the Final Environmental Impact Report (EIR) for the LAX Master Plan and follow the Holland classification.[7] Some wildlife species may be limited to a specific community and may be characteristic of that community; however, many wildlife species are associated with several different biotic communities. The biotic communities and vegetation types found within the Dunes are described in accordance with designations and definitions provided by Holland and are further identified by element code numbers. There are six biotic communities that describe the Dunes (Figure 2.3-1, *Biotic Communities of the Los Angeles/El Segundo Dunes*), which are located within two generally designated open areas within the coastal zone:

- The El Segundo Blue Butterfly Habitat Restoration Area (HRA), located to the west of the airfield, is comprised of approximately 202.8 acres. Four biotic communities are represented: Southern Foredune (135.6 acres), Southern Dune Scrub (24.4 acres), Valley Needlegrass Grassland (17.1 acres), and Developed (25.7 acres).

- Approximately 104.3 acres of non-restructured dunes adjacent to and north of the HRA are comprised of three biotic communities: Disturbed Dune Scrub/Foredune (74.6 acres), Nonnative Grassland/Ruderal (16.9 acres), and Developed (12.8 acres).

2.3.1 Southern Foredune (CNDDB Element Code 21230)

Southern Foredune plant communities are typically dominated by perennial species with a high proportion of suffrutescent (slightly woody at base) plants up to 30 cm tall. Species such as red sand verbena (*Abronia maritima*), beach burr (*Ambrosia* sp.), and the nonnative sea rocket (*Cakile* sp.) usually occur in exposed sites, and pink sand verbena (*Abronia umbellata*) and morning-glory (*Calystegia* sp.) occur in less exposed sites.[8] Establishment of these plants reduces the amount of blowing sand, partially stabilizing the dunes. The mitigation site for restoration of 4.3 acres of dune habitat is located within Subsite 23 the Southern Foredune community (Figure 2.3.1-1, *Mitigation Site for Southern Foredune Restoration*). Photographs of the Dunes are provided in Figure 2.3.1-2, *Site Photographs.*

[7] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

[8] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

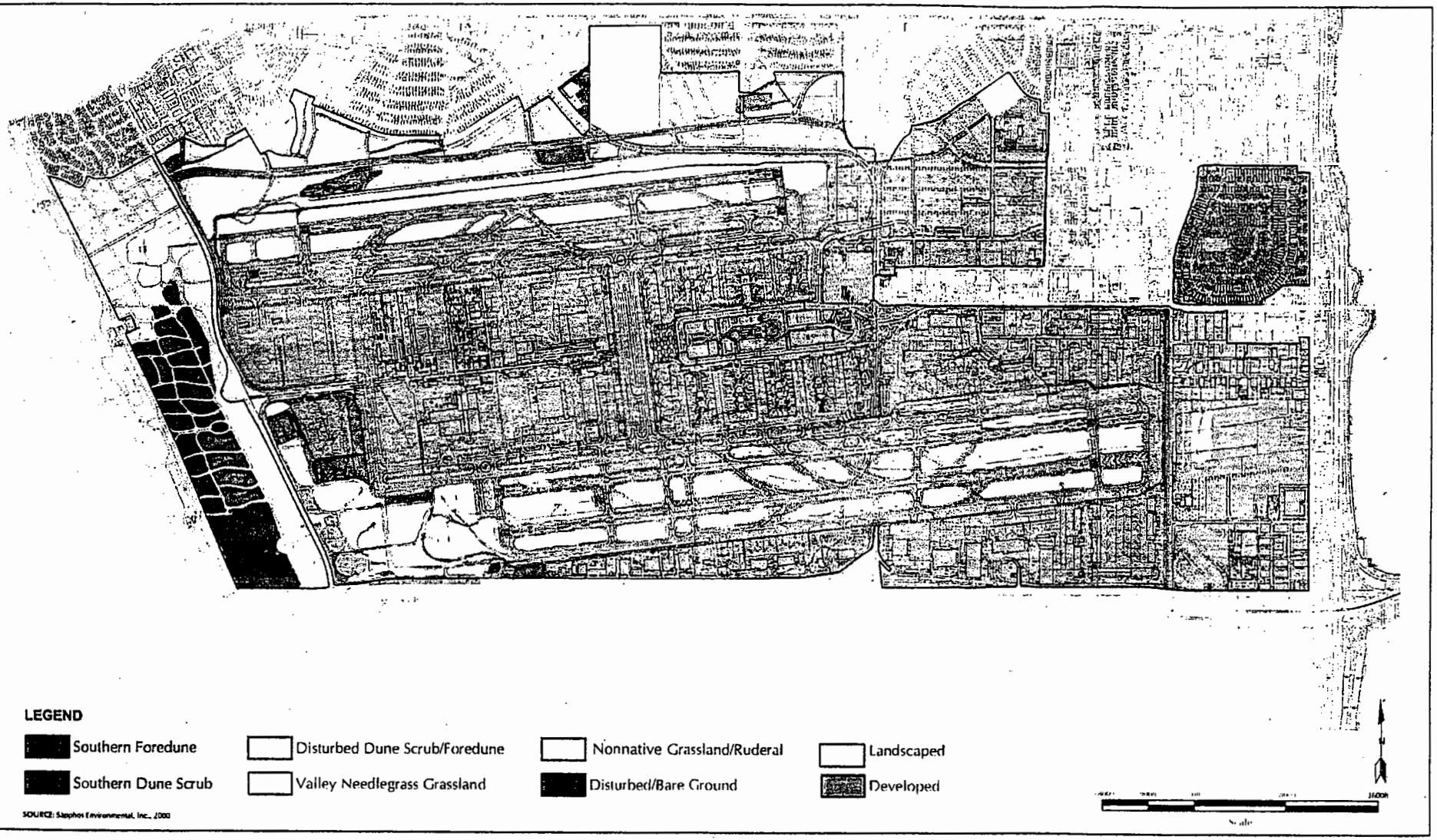


FIGURE 2.3-1
Biotic Communities of the Los Angeles/El Segundo Dunes

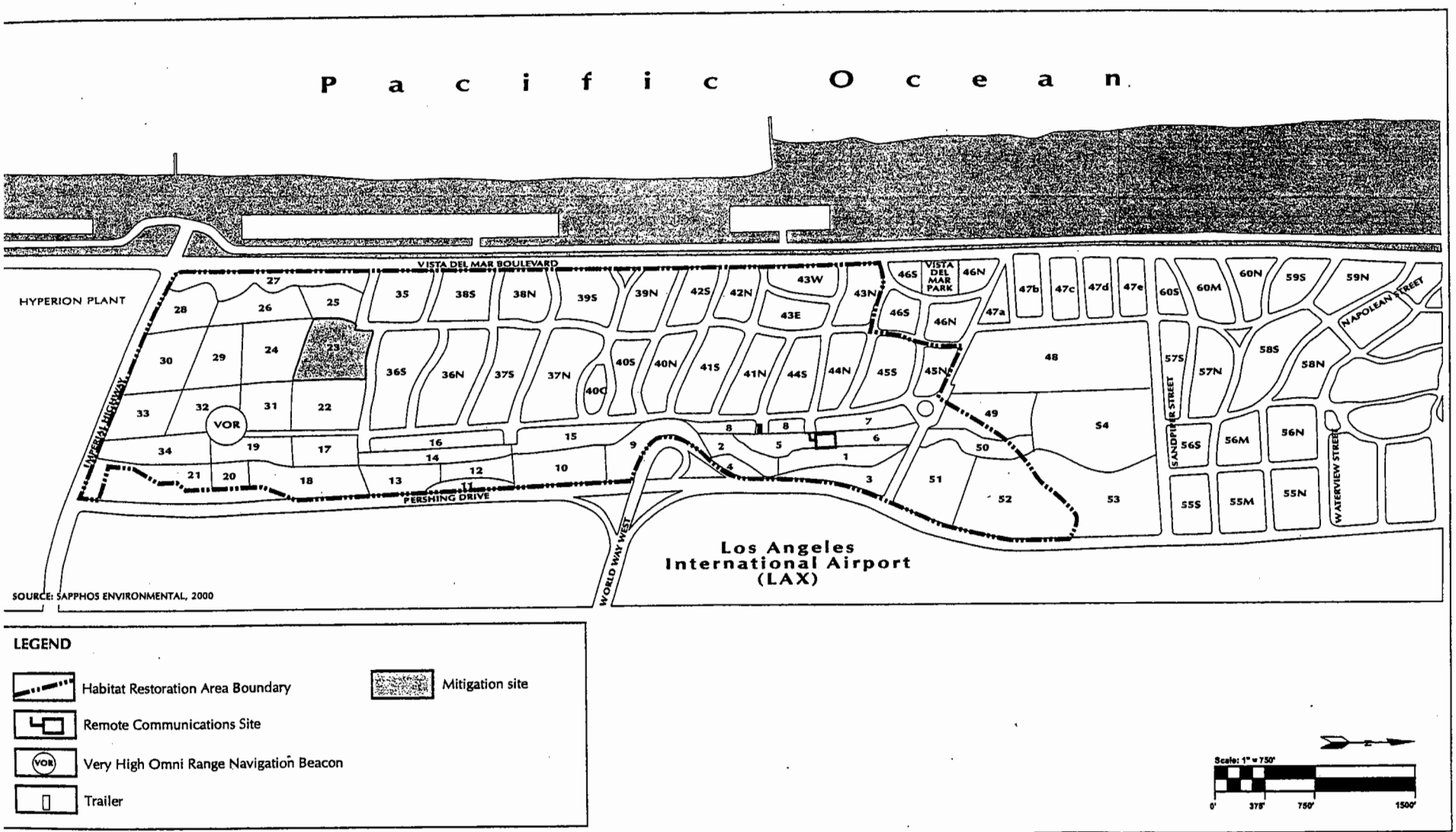


FIGURE 2.3.1-1
Mitigation Site for Southern Foredune Restoration

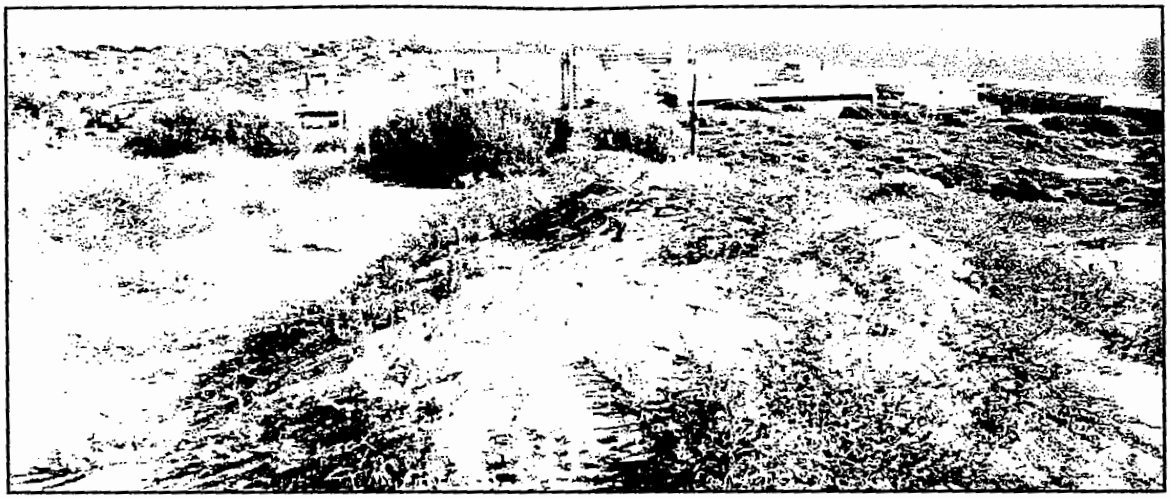


PHOTO 1
View of the Dunes from Subsite 23 looking south towards Hyperion.

PHOTO 2
View of the Dunes from Subsite 31 looking west towards Santa Monica.

PHOTO 3
View of the Dunes from the crest of backdune looking east towards LAX. Coastal buckwheat in the forefront.

FIGURE 2.3.1-2
Site Photographs

The Southern Foredune community, identified in Figure 2.3-1, is inhabited by a number of wildlife species, including the federally-listed El Segundo blue butterfly (*Euphilotes battoides allyni*). Historical surveys have recorded a large number of wildlife species (many of which no longer occur at the Dunes) and 151 species of invertebrates. Of the 34 sensitive wildlife species designated by federal or state agencies that were determined to have the potential to occur within the LAX Master Plan Boundaries, 24 were identified within the coastal zone. There are 18 sensitive arthropods (14 sensitive insect species and four sensitive arachnids), all of which were located within the Dunes. Two sensitive reptiles, the silvery legless lizard and the San Diego horned lizard, were determined present within the Dunes. Two sensitive bird species, the burrowing owl and the loggerhead shrike, were detected in the Dunes.

Within the coastal zone, 135.6 acres are found within the HRA of the Dunes. Relatively undisturbed areas (about 40 acres) surrounding the Very High Omni Range Navigation Beacon provide the most representative example of this community. Ecological restoration efforts undertaken between 1987 and 1994 have restored an additional 95.6 acres. The host plant and primary food source for the El Segundo blue butterfly is coast buckwheat (*Eriogonum parvifolium*), which is found in this biotic community. Southern Foredune may intergrade with Southern Dune Scrub.[9]

There are 20 sensitive plant species designated by federal or state agencies that were determined to have the potential to be present within the LAX Master Plan Boundaries. Surveys conducted for sensitive plant species identified three sensitive plant species within the coastal zone. Lewis' evening primrose (*Camissonia lewissi*), El Segundo duneflower (*Pholisma paniculaum*), and California spineflower (*Mucronea californica*) were identified within the Southern Foredune community. The remaining 17 sensitive plant species were determined absent within the coastal zone.

2.3.2 Southern Dune Scrub (CNDDB Element Code 21330)

Southern Dune Scrub is a dense coastal scrub community of scattered shrubs, subshrubs, and herbs that are generally less than 1 meter in height, often developing considerable cover, and often succulent.[10] Characteristic species include saltbush (*Atriplex leucophylla*), California croton (*Croton californicus*), desert tea (*Ephedra californica*), coast goldenbush (*Isocoma menziesii* var. *vernonioides*), bush lupine (*Lupinus chamissonis*), box thorn (*Lycium brevipes*), prickly pear (*Opuntia littoralis*), lemonade-berry (*Rhus integrifolia*), jojoba (*Simmondis chinensis*), and the nonnative crystalline iceplant (*Mesembryanthemum crystallinum*). Along the coast, Southern Dune Scrub intergrades with the Southern Foredune plant community.[11] Many of the wildlife species in the Southern Foredune community are also found in the Southern Dune Scrub community.

Southern Dune Scrub is considered by the CDFG Heritage Program to be among the most highly imperiled natural communities in California. The Dunes contain virtually the only remaining example of this plant community in mainland Southern California. Within the Dunes, the Southern

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[9] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

[10] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

[11] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

Dune Scrub community is found only within the HRA along the steep slope of the backdune (Figure 2.3-1). The Southern Dune Scrub community is comprised of 24.4 acres. The host plant and primary food source for the El Segundo blue butterfly is coast buckwheat, which is found in this biotic community. Because the backdune is subject to lower thermal stress and wind dehydration, the vegetative cover of the Southern Dune Scrub community is typically denser than that of the Southern Foredune community.

2.3.3 Valley Needlegrass Grassland (CNDDB Element Code 42110)

The deflation plain east of the backdune consists of loosely consolidated (incipient) sandstone covered to variable depths with aeolian (wind-transported) sand. Such deflation areas are commonly found behind coastal dune systems and where erosion down to or near the water table occurs, commonly supporting vernal pools.[12] Limited information is available regarding the historic vegetation of the deflation plain of the Dunes and the sand-dominated substrates that extend inland because extensive disturbance occurred before any botanical studies could be conducted. Historical documents refer to the area as "meadow." Recently, the area has been referred to as the "Los Angeles Coastal Prairie." Although the Los Angeles Coastal Prairie has been overlooked by Holland[13] as a distinct association, Mattoni has reported on the unique characteristics of this habitat, including the predominance of an herbaceous plant community with extensive vernal pools.[14] This community is considered an instance of Valley Needlegrass Grassland. The deflation plain area is referred to herein as "Valley Needlegrass Grassland," as classified by Holland. The Valley Needlegrass Grassland community occupies 17.1 acres within the HRA and is limited to three distinct areas adjacent to and west of Pershing Drive (Figure 2.3-1). According to Pierce and Pool,[15] the "meadow" was historically composed of the perennial nodding needlegrass (*Nassella [Stipa] cernua*), several annual native grasses, and a number of flowering forbs (herbaceous plants that are not grasses but are associated with grasses). A photograph of the area in 1938 shows a predominance of forbs over grasses.

Many common species of birds are known to utilize this biotic community, including western meadowlark (*Sturnella neglecta)*, English sparrow (*Passer domesticus*), killdeer (*Charadrius vociferous)*, and mourning dove (*Zenaida macroura*). Butterflies and moths known to occur in this community are the cabbage white butterfly (*Pieris rapae*), the buckeye (*Junonia coenia)*, and the common hairstreak (*Strymon melinus)*. Reptiles known to occur in this community include the side-blotched lizard (*Uta stansburiana)* and southern alligator lizard (*Gerrhonotus multicarinatus*).

The Valley Needlegrass Grassland community has been significantly altered and degraded by development activities. The floral components typically associated with it are now almost completely absent due to extensive grading and paving and the invasion of exotic annual grasses. No vernal pools exist in the community today.

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[12] Barbour, M.G. and A.F. Johnson. 1998. "Beach and dune." In Terrestrial Vegetation of California, 2nd Edition. Edited by Barbour, M.G. and J. Major.

[13] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

[14] Mattoni, R. and T.R. Longcore. 1997. "The Los Angeles Coastal Prairie, A Vanished Community," Crossosoma 23(2): 71-102.

[15] Pierce, W.D. and D. Pool. 1938. "The Fauna and Flora of the El Segundo Sand Dunes." *Bulletin of the Southern California Academy of Science* 37:93-97.

2.3.4 Disturbed Dune Scrub/Foredune

This community is made up of 74.6 acres and is located north of the HRA, south of Waterview Street, west of Pershing Drive, and east of Vista Del Mar Boulevard, and it is bisected by Sandpiper Street (Figure 2.3-1). This biotic community is heavily disturbed and is dominated by invasive species that drive out native vegetation. Nonnative species present include acacia, iceplant, exotic annual grasses, and several large patches of giant reed (*Arundo donax*). The few coastal dune elements are patchy and include burbush, dunes evening primrose, bush lupine, pink sand verbena, and deerweed. Coast buckwheat, a plant species necessary to support the El Segundo blue butterfly, is absent from this site. Structural remnants belonging to former residences and an abundance of varied debris can be found among the sandy substrate.

2.3.5 Nonnative Grassland (CNDDB Element Code 42220)/Ruderal

Nonnative Grassland/Ruderal areas are those that have been subjected to past disturbance. They are dominated by exotic annual grasses with nonnative forbs interspersed. The red fox (*Vulpes vulpes*) has invaded this community and uses it for foraging. Birds commonly found foraging and nesting in this biotic community include western meadowlarks (*Sturnella neglecta*), English sparrows, killdeer, mourning doves, American kestrels (*Falco sparverius*) and red-tailed hawks (*Buteo jamaicensis*). The same butterflies, moths, and reptiles found within the Valley Needlegrass Grassland community are found here.

This biotic community is comprised of 16.9 acres within the coastal zone that was once a residential area (Figure 2.3-1). Currently, the community undergoes regular operations maintenance and is routinely mowed.

2.3.6 Developed

Developed areas within the Dunes occupy 25.7 acres within the HRA and 12.8 acres within the non-restructured dunes adjacent to and to the north of the HRA. Developed areas include the airfield, terminals, parking, roads, support facilities, and the network of streets within the Dunes as well as current navigational aids and associated service roads.

2.4 WETLANDS

A comprehensive wetlands analysis addressing the potential effects of the LAX Master Plan on lakes, rivers, streams, wetlands, and other special aquatic habitats protected by the federal and state governments, is fully described in Section 4.12, *Wetlands,* of the Final EIR.[16] Field efforts undertaken between 1997 and 1998 in support of the wetlands analysis did not identify wetlands within the Dunes. Until 1994, a small artificial freshwater marsh was supported by a leaking water pipe to the south of the entrance to the site; however, it did not meet the U.S. Army Corps of Engineers criteria for wetland soils, hydrology, or vegetation. There are no wetlands within the Dunes; therefore, further discussion of wetlands is not warranted.

[16] City of Los Angeles. April 2004. *Final Environmental Impact Report.* Available at: http://www.laxmasterplan.org.

SECTION 3.0
PROJECT GOALS

This section addresses the goals set forth for the habitat restoration of 5.6 acres of coastal dune habitat within the coastal zone as a result of the construction of navigational aids in support of Alternative D of the Los Angeles International Airport (LAX) Master Plan and the removal of navigational aids no longer required to assist aircraft approaching LAX from the west. The goals are five-fold and include the conservation of state-designated sensitive habitats within and adjacent to the El Segundo Blue Butterfly Habitat Restoration Area (HRA), the conservation of floral resources (Lewis' evening primrose), the conservation of faunal resources, the replacement of state-designated sensitive habitats, and the conservation of the El Segundo blue butterfly. The goals are reflected in five mitigation measures, namely MM-BC-1, M-BC-2, MM-BC-9, MM-BC-13, and MM-ET-4, which have been revised as a result of ongoing coordination between the U.S. Department of Transportation Federal Aviation Administration (FAA) and the California Coastal Commission (CCC).

MM-BC-1: CONSERVATION OF STATE-DESIGNATED SENSITIVE HABITAT WITHIN AND ADJACENT TO THE EL SEGUNDO BLUE BUTTERFLY HABITAT RESTORATION AREA

The goal of MM-BC-1 is to ensure that the state-designated sensitive habitats within the HRA are conserved and protected during construction, operation, and maintenance. A description of construction avoidance measures and preconstruction evaluation is described in Section 6.0, *Maintenance and Monitoring Plan*.

MM-BC-2: CONSERVATION OF FLORAL RESOURCES: LEWIS' EVENING PRIMROSE

MM-BC-2 is designed to compensate for the loss of individuals of the sensitive Lewis' evening primrose within the HRA that will be removed as a result of the construction of navigational aids in support of Alternative D of the LAX Master Plan. The goal of this mitigation measure is to ensure the establishment the same number of plants as the number impacted. A description of directed surveys to be undertaken for the Lewis' evening primrose and subsequent restoration efforts are described in Section 4.0, *Restoration Plan*, where details of the restoration efforts for MM-BC-13 and MM-ET-4 are also described.

MM-BC-9: CONSERVATION OF FAUNAL RESOURCES

The primary purpose of MM-BC-9 is to compensate for the loss of habitat units for sensitive species within the LAX Airfield Operation Area (AOA), which is outside the scope of this plan. A component of this measure, as it relates to the Los Angeles/El Segundo Dunes (Dunes), is to conduct preconstruction surveys to determine the presence of individuals of sensitive arthropod species, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl. The goal of this mitigation measure is to ensure that sensitive faunal resources will not be affected by the construction or removal of navigational aids in the Dunes. A description of preconstruction survey methods and relocation efforts are described in Section 5.0, *Implementation Plan*.

MM-BC-13: REPLACEMENT OF STATE-DESIGNATED SENSITIVE HABITATS

The goal of MM-BC-13 is to mitigate for the loss of state-designated sensitive habitat within the Dunes as a result of the removal of navigational aids within and adjacent to the northern part of the

HRA (Figure 1-2). Removal of navigational aids and associated service roads under Alternative D of the LAX Master Plan would result in impacts to 1.94 acres of state-designated sensitive habitat within the Dunes. Mitigation for these impacts includes revegetation of all impacted areas and the restoration of Southern Foredune habitat within Subsite 23 to achieve a total mitigation ratio of 2:1. The total acreage for restoration within Subsite 23 associated with this mitigation measure and that of MM-ET-4 is 4.4 acres.

MM-ET-4: EL SEGUNDO BLUE BUTTERFLY CONSERVATION: HABITAT RESTORATION

The mitigation objectives of MM-ET-4 include salvaging and transplanting all coast buckwheat to be removed for navigational aid development within Subsite 23 of the HRA and restoring 3 acres of Southern Foredune habitat within Subsite 23 of the HRA. These activities shall be undertaken three years prior to implementation of proposed navigational aids to ensure that there is no net loss of occupied habitat. The overall goal of the mitigation is to provide habitat for the El Segundo blue butterfly that meets the physiological and ecological requirements of the species. The goal is to ensure that all necessary steps to avoid the flight season of the El Segundo blue butterfly (June 14–September 30) are implemented when undertaking installation of navigational aids and associated service roads proposed under Alternative D of the LAX Master Plan within habitat occupied by the El Segundo blue butterfly.

SECTION 4.0
RESTORATION PLAN

Ecological restoration is usually defined as an attempt to recreate fully functioning historic ecosystems. Ecological restoration may be differentiated from revegetation, which typically has the more limited objective of reestablishing plant cover on disturbed ground. Habitat enhancement refers to a focus on a particular species or set of species for which the area in question functions as habitat. For example, the 1988 to 1994 ecological restoration efforts at the Los Angeles/El Segundo Dunes (Dunes) involved planting a suite of plant species historically present within the Dunes and included the planting of coastal buckwheat shrubs to enhance the area as habitat for the endangered El Segundo blue butterfly. Ecosystem or habitat creation is also an option when true ecological restoration is not considered financially or technically feasible or when other objectives are more important. Mitigation measures MM-BC-13 and MM-ET-4 involve the restoration of habitat historically present at the Dunes, while MM-BC-2 involves revegetation with Lewis' evening primrose to mitigate for the losses associated with the construction of navigational aids.

Restoration efforts undertaken between 1988 and 1994 were based on a species composition and density determined by the initial quantitative sampling of vegetation assemblages, including meadow, backdune, and foredune habitats within the Dunes.[17] Four transects were established and vegetation data was gathered and analyzed. The analysis resulted in the development of a restoration model that was implemented. The same restoration model and nomenclature for subsites have to be used for this restoration plan.[18]

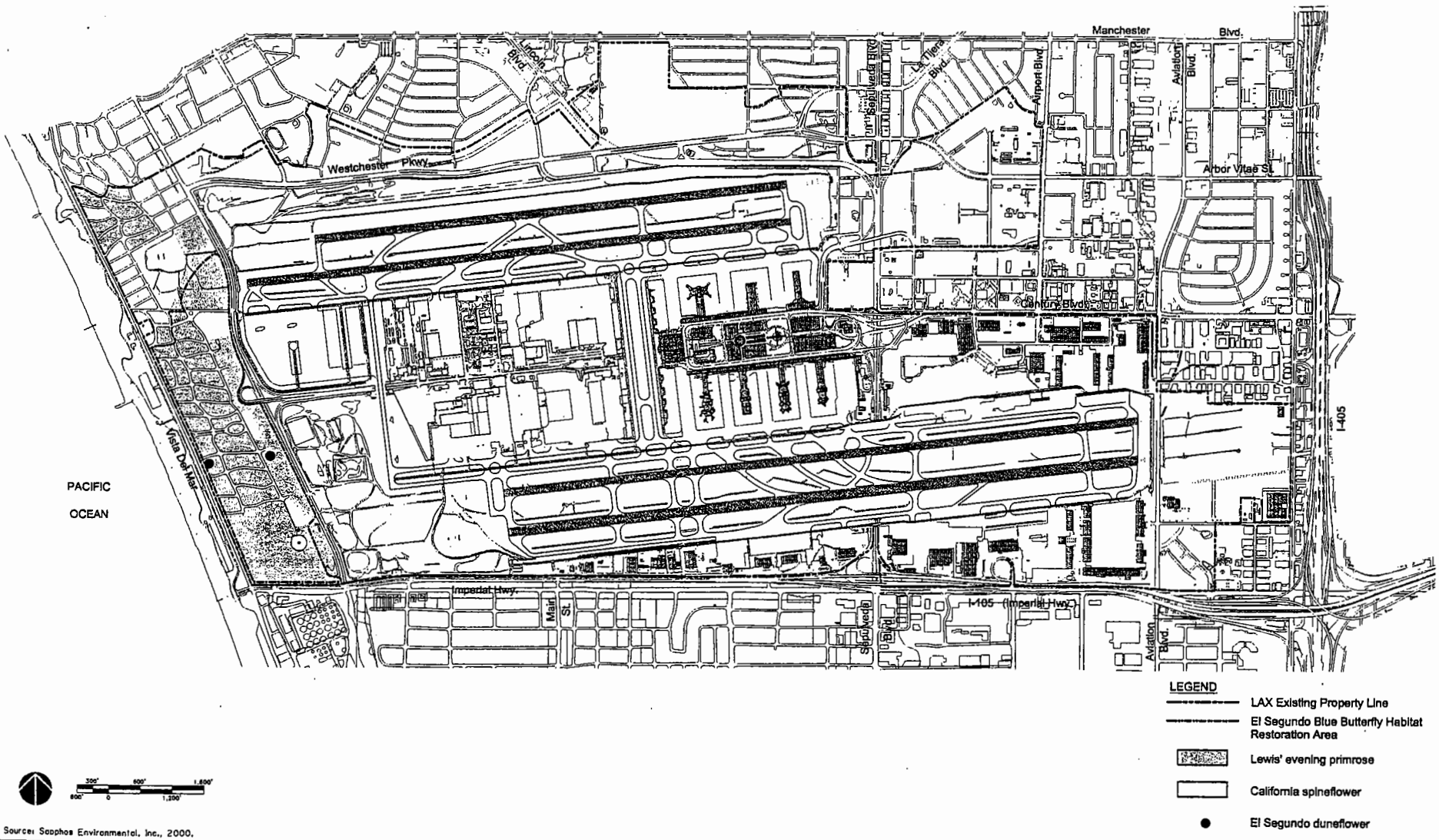
4.1 CONSERVATION OF FLORAL RESOURCES – LEWIS' EVENING PRIMROSE (MM-BC-2)

The areas occupied by Lewis' evening primrose east and west of Pershing Drive are approximately 150 feet apart and most likely represent one inclusive population (Figure 4.1-1, *Location of Sensitive Plant Species*). The area east of Pershing Drive occupied by Lewis' evening primrose is relatively small (300 plants within 2.5 acres) and close to the occupied area within the Dunes (including 9,051 plants within the 200-acre El Segundo Blue Butterfly Habitat Restoration Area (HRA)); therefore, this current configuration does not provide a substantial risk-spreading benefit.

Mitigation for the potential loss of Lewis' evening primrose individuals shall be conducted through the collection of seed east of Pershing Drive and within the HRA followed by the broadcast of seed within Subsite 23. The U.S. Department of Transportation Federal Aviation Administration (FAA), or its designee, shall collect seed from those plants to be removed and properly clean and store the collected seed until used. If possible, seeds shall be collected in multiple years to ensure an adequate seed supply for planting. Collected seed shall be broadcast (distributed) within the 4.3-acre Subsite 23 after the first wetting rain. FAA, or its designee, shall implement a monitoring plan

[17] Mattoni, R.H.T. 1990. "Species Diversity and Habitat Evaluation Across the El Segundo Sand Dunes at LAX." Prepared by: Mattoni, R.H.T., Agresearch, Inc. Prepared for: The Board of Airport Commissioners, One World Way West, Los Angeles, CA 90009.

[18] At the beginning of the 1987–1988 research program, the entire 302-acre Dunes property was subdivided into 60 subsites to serve as reference for restoration studies and activities. The subsites were selected on the basis of such factors as soil conditions, plant communities, aerial photographic record, prior butterfly distribution studies, history of environment-modifying activities, and readily available features (e.g., old streets, obvious shifts in soil type, crests, and toes of slope) to enable rapid visual orientation in the field. Individual subsites reveal some biotic and physical variation; they also serve as useful references for description of the Dunes and have proven useful for continuing monitoring and management activities.



Source: Sapphos Environmental, Inc., 2000.

FIGURE 4.1-1
Location of Sensitive Plant Species

to monitor the establishment of individuals of Lewis' evening primrose for a period of not more than five years. Performance criteria shall include the establishment of the same number of plants as the number impacted in the first year following the distribution of seed within the mitigation site. Performance criteria shall also include confirmation of recruitment for two years following the first year that flowering is observed and establishment of individuals throughout the mitigation area within three years following the first year that flowering is observed. Monitoring shall be undertaken in the manner set forth in Section 6.0, *Maintenance and Monitoring Plan,* of this habitat restoration plan. The area will receive monitoring and management for the presence of Lewis' evening primrose individuals equal to or greater than the number of individuals impacted by installation or removal of navigational aids.

4.2 REPLACEMENT OF STATE-DESIGNATED SENSITIVE HABITATS (MM-BC-13)

FAA, or its designee, shall undertake mitigation for the loss of state-designated sensitive habitat within the Dunes, including the HRA. Installation of navigational aids and associated service roads under Alternative D of the Los Angeles International (LAX) Master Plan would result in impacts to 66,675 square feet (1.53 acres) of state-designated sensitive habitat within the Dunes. These 1.53 acres will be replaced at a 2:1 ratio within Subsite 23 of Dunes for a total of 3.06 acres. Additionally, the removal of navigational aids no longer required to assist aircraft approaching from the west has the potential to disturb an estimated 1.4 acres of habitat. These 1.4 acres will be replaced at a 2:1 ratio for a total of 2.92 acres in two locations: 1.4 acres will be undertaken in-situ, and 1.4 acres will be undertaken within Subsite 23. The in-situ restoration of 1.4 acres consists of planting dominant species of both Southern Foredune and Valley Needlegrass Grassland, while restoration of Subsite 23 consists of planting species of Southern Foredune only. The revegetation plan for 1.4 acres of Southern Foredune vegetation type and Valley Needlegrass Grassland within the HRA requires planting specifications and schedules, a weed eradication program, and an irrigation plan, which are provided in Sections 5.0, *Implementation Plan,* of this habitat restoration plan.

4.2.1 In-situ Valley Needlegrass Grassland Restoration

Valley Needlegrass Grassland – Deflation Plain

In-situ restoration efforts will occur within Subsites 47–52 following the removal of existing navigational aids. Subsites 51 and 52 are historically characterized as Valley Needlegrass Grassland and will be revegetated accordingly. This grassland was once part of a larger area referred to as the "Los Angeles Coastal Prairie." The Los Angeles Coastal Prairie is (or was) an instance of Valley Needlegrass Grassland, as classified by Holland.[19] At the Dunes, the grassland plant community was composed of nodding needlegrass (*Nassella* [Stipa] *cernua*) and a number of flowering forbs (herbaceous plants that are not grasslike but are associated with grasses). When Pershing Drive was widened and realigned in 1974, the deflation plain slack area was scraped, and the soil substrate was removed. The area was then hydromulched with a native but inappropriate seed mix that resulted in the transformation of the forb-dominated prairie into one dominated by California buckwheat, iceplant, and Mediterranean grasses. The removal of these species was the focus of previous restoration efforts and continues to be the focus of ongoing maintenance efforts.

[19] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Sacramento, CA: California Department of Fish and Game, Non-Game Heritage Program.

Plant Palette

Any areas within Subsites 51 and 52 that have been disturbed due to removal of navigational aids will be revegetated with nodding needlegrass (*Nassella cernua*). Additionally, the following species will be distributed as broadcast seed: Dunes primrose (*Camissonia chieranthifolia*), Lewis' evening primrose (*Camissionia lewisii*), yellow pincushion (*Chaenactis glabriuscula*), slender eriogonum (*Eriogonum gracile*), deerweed (*Lotus scoparius*), California poppy (*Eschscholzia californica*), bedstraw (*Gnaphalium biocolor*), California croton (*Croton californica*), and fescue (*Festuca megalura*).

Propagation

Propagation and planting of nodding needlegrass will be accomplished by the propagation from seed collected on site during late spring/early summer. Seed shall be properly cleaned, dried, and stored until used. In late summer, nodding needlegrass seed will be propagated by a qualified contract grower in 2-inch thimble pots and properly maintained. Seed collection for species to be distributed as broadcast seed will be undertaken during the appropriate time of year, and the collected seed will be properly cleaned and stored until used. If possible, seeds shall be collected in multiple years to ensure an adequate seed supply for broadcast.

Plant Installation

Nodding needlegrass shall be planted at a rate of 1,500 plants per acre (18 inches on center, as previously described in the restoration model for the Dunes).[20] Planting shall take place in the fall or after the first wetting rain. Maintenance of restoration plantings shall consist of adequate irrigation and weed abatement, as described in Section 6.0, *Implementation Plan*.

4.2.2 In-situ Southern Foredune Restoration

Southern Foredune

In-situ restoration efforts will occur within Subsites 23, 47, and 49 following the removal of existing navigational aids. Under MM-ET-4, these subsites will be restored with Southern Foredune vegetation. Of the three communities described on the Dunes, the "pioneer community" is most likely associated with the foredune.[21] The foredune historically supported red sand verbena, pink sand verbena (*Abronia umbellata*), silver beach bur (*Ambrosia chamissonis*), beach morning glory (*Calystegia soldonella*) (no longer present), spectacle pod (*Dithyrea californica* var. *maritime*) (no longer present), and Russian thistle (*Solsola tragus*). Undisturbed areas in the southern-most portion of the Dunes provide the most representative example of this community. As described by Holland, the community is dominated by perennial species with a high proportion of suffrutescent plants (shrubby but not very woody) up to 30 centimeters (~12 inches) tall.[22]

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[20] Mattoni, R.H.T. 1990. "Species Diversity and Habitat Evaluation Across the El Segundo Sand Dunes at LAX." Prepared by: Mattoni, R.H.T., Agresearch, Inc. Prepared for: The Board of Airport Commissioners, One World Way West, Los Angeles, CA 90009.

[21] Pierce, W.D. and D. Pool. 1938. "The Fauna and Flora of the El Segundo Sand Dunes." *Bulletin of the Southern California Academy of Science* 37:93-97.

[22] Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. A Non-Game Heritage Program. California Department of Fish and Game. Sacramento.

On undisturbed foredune area, individual plants are usually spaced 2 to 3 feet apart. Mature perennial shrubs, such as coastal buckwheat (*Eriogonum parvifolium*), dunes lupine (*Lupinus chamissonis*), and silver beach bur are usually separated by 2 to 3 feet. The reason for this spacing is not clear but is probably related to water availability and/or underground root growth into a zone where the plants compete for water and/or nutrients.

Plant Palette

All plants within the plant palette (Table 4.2.2-1, *Southern Foredune Plant Palette: In-situ Restoration*) were chosen based on their natural occurrence in southern foredune communities and their establishment success during the 1988–1994 restoration efforts.[23] Table 4.2.2-1 depicts the species to be planted, species density, and species size at the time of planting. The long-term plant density target has been determined based on the average size, growth form, and longevity of individual plants. Initial densities were determined to be adequate to achieve the long-term plant density target. All plants, with the exception of coastal prickly pear, will be planted as container plants.

As a result of coordination efforts undertaken between CCC, FAA, and LAWA, it has been mutually agreed to that in lieu of including coast buckwheat within the plant palette for in-situ restoration of the Southern Foredune plant community, enhancement of the 4.3-acre Subsite 22 within the HRA will be undertaken by planting the appropriate number of coast buckwheat plants sufficient to enhance existing clusters of buckwheat and to establish a new cluster. Subsite 22 has been identified as an appropriate site for the enhancement plantings due to the current low numbers of coast buckwheat individuals (approximately 56 coast buckwheat plants), thus providing opportunities to not only enhance the existing clusters of buckwheat but to establish a new cluster of plants. While Subsite 22 will be monitored concurrently with monitoring efforts at Subsite 23, no success criteria are established for plantings within Subsite 22.

[23] Environmental Science Associates. 1994. "Long Term Management Plan for Los Angeles/El Segundo Dunes." Prepared for: City of Los Angeles Environmental Affairs Department, One World Way West, Los Angeles, CA 90045. Prepared by: Environmental Science Associates, 4221 Wilshire Boulevard, Suite 480 Los Angeles, CA 90010-3512; Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105; and Rudolf H.T. Mattoni, Agresearch, Inc., 9620 Heather Road, Beverly Hills, CA 90210.

TABLE 4.2.2-1
SOUTHERN FOREDUNE PLANT PALETTE: IN-SITU RESTORATION

Plant Species	Density (plants per acre)	Size (gallons)
Primary perennial species for foredune revegetation		
Coastal buckwheat* *Eriogonum parvifolium*	TBD	1
Coast goldenbush *Ericameria [Haplopappus] ericoides*	385	1
California encelia *Encelia californica*	146	1
Bladderpod *Isomeris arboreus*	195	1
Narrow-leaved bedstraw *Galium angustifolium*	129	1
Coastal prickly pear *Opuntia littoralis*	125	cuttings
Secondary plant species of the foredune to be introduced as container plants		
Morning glory *Calystegia macrostegia*	158	1
California aster *Corethrogyne filaginifolia*	225	1
Butterweed *Senecio douglasii*	88	1
Saltgrass *Distichlis spicata*	52	1
Lance-leaf dudleya *Dudleya lanceolata*	46	1
California sagebrush *Artemisia californica*	164	1

NOTE:
*Coast buckwheat to be revegetated as a result of the removal of navigational aids outside the HRA shall be planted within the HRA (Subsite 22).

Propagation

The planting palette shall be made up exclusively of native plants that are appropriate to the coastal dune habitat and Southern California coastal region and that are grown from seeds or vegetative materials obtained from local natural habitats so as to protect the genetic makeup of natural populations. Horticultural varieties shall not be used.

All plants for restoration shall be propagated from seed collected within the Dunes and supplemented by a qualified contract grower, as needed, with local stock. Collection of coast buckwheat seed on the Dunes with no adverse effect on the El Segundo blue butterfly shall take place from September 15 through June 1 of any given year. All plants listed in the plant palette shall have seed collected following the flight season of the El Segundo blue butterfly. The El Segundo blue butterfly flight season is from mid June through early September. Seed shall be cleaned and stored in a cool, dry location until propagation begins in October 2004. Propagation should be conducted at a reputable nursery, allowing four to six months for seedlings to reach a suitable size for out planting.

Plant Installation

Planting of stock shall be in the existing substrate. Prior to plant installation, a qualified habitat restoration specialist shall place colored, pin flags on the enhancement site to mark planting locations of the shrubs. The placement of these flags shall be in concurrence with Appendix A, *Draft Implementation Plan,* and set forth according to Appendix B, *Planting and Irrigation Specifications*. The limits of the restoration site shall also be clearly marked with wooden stakes and delineated using a global positioning system (GPS) unit.

Foredune vegetation stock to be planted shall be healthy, vigorous, well-formed, and free from disease and environmental stress (e.g., windburn). Foredune vegetation stock shall be planted from 1-gallon containers into holes dug to a size twice the width and three times the depth of the container. Plants shall be removed from the container/sleeve, and if necessary, the sides of the root ball shall be scarified to promote root development. Plants shall be placed in the planting holes, as prescribed in Appendix B, so that the crown of the plant is at ground level. Excavated sand shall be used to fill the bottom of each hole to achieve the proper planting level and to backfill the remaining space around the root ball. Immediately after installation, plants shall be deep-soaked with sufficient water to reach the lower roots.

4.3 MITIGATION MEASURE MM-ET-4

MM-ET-4 has two restoration components associated with the conservation of the endangered El Segundo blue butterfly and the species' host plant, coast buckwheat. Subsite 23 of the HRA was selected as the site for implementation of MM-ET-4 due to the low shrub diversity present, as well as low numbers of coastal buckwheat, the foodplant for the El Segundo blue butterfly.

- Coast buckwheat plants are to be salvaged and relocated, along with any larvae on the plant or pupae in the soil below the plant that would be removed to accommodate the replacement navigational aids. These salvaged plants shall be replanted in Subsite 23 combined with previously established MM-BC-13 actions.

- 3.0 acres are to be restored in Subsite 23 to mitigate for the loss of 1.53 acres of state-designated sensitive habitat following the installation of navigational aids within and adjacent to the northern part of the HRA.

4.3.1 Specifications for Coast Buckwheat Salvage and Relocation

Salvage and Transplant

All coast buckwheat to be removed during installation of navigational aids shall be salvaged and transplanted to Subsite 23 within the HRA. Prior to installation of navigational aids, a permitted and qualified biologist shall salvage El Segundo blue butterfly larvae in order to minimize impacts to the butterfly. Salvage and transplantation efforts will take place after the onset of winter rains in January, which coincides with the normal period of dormancy of coast buckwheat. Each plant shall be excavated with its entire root ball such that sand at the base of each plant is disturbed to the least extent possible. Each plant will be transported in a suitable container and planted immediately in Subsite 23.

4.3.2 Southern Foredune Restoration (Subsite 23)

Plant Palette

All plants within the plant palette (Table 4.3.2-1, *Southern Foredune Plant Palette: Subsite 23*) were chosen based on their natural occurrence in Southern Foredune communities and their establishment success during the 1988–1994 restoration efforts.[24] Table 4.3.2-1 depicts the species to be planted, the species density, and the species size at the time of planting. The long-term plant density target has been determined based on the average size, growth form, and longevity of individual plants. Initial densities were determined to be adequate to achieve the long-term plant density target. All plants, with the exception of coastal prickly pear, will be planted as container plants.

[24] Environmental Science Associates. 1994. "Long Term Management Plan for Los Angeles/El Segundo Dunes." Prepared for: City of Los Angeles Environmental Affairs Department, One World Way West, Los Angeles, CA 90045. Prepared by: Environmental Science Associates, 4221 Wilshire Boulevard, Suite 480 Los Angeles, CA 90010-3512; Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105; and Rudolf H.T. Mattoni, Agresearch, Inc., 9620 Heather Road, Beverly Hills, CA 90210.

TABLE 4.3.2-1
SOUTHERN FOREDUNE PLANT PALETTE: SUBSITE 23

Plant Species	Density (plants per acre)	Size (gallons)
Primary perennial species for foredune revegetation		
Coastal buckwheat *Eriogonum parvifolium*	200	1
Coast goldenbush *Ericameria [Haplopappus] ericoides*	30	1
California encelia *Encelia californica*	75	1
Bladderpod *Isomeris arboreus*	60	1
Narrow-leaved bedstraw *Galium angustifolium*	75	1
Coastal prickly pear *Opuntia littoralis*	33	cuttings
Secondary plant species of the foredune to be introduced as container plants		
Morning glory *Calystegia macrostegia*	30	1
California aster *Corethrogyne filaginifolia*	150	1
Butterweed *Senecio douglasii*	30	1
Saltgrass *Distichlis spicata*	15	1
Lance-leaf dudleya *Dudleya lanceolata*	150	1
California sagebrush *Artemisia californica*	15	1

Propagation

The planting palette shall be made up exclusively of native plants that are appropriate to the coastal dune habitat and southern California coastal region and that are grown from seeds or vegetative materials obtained from local natural habitats so as to protect the genetic makeup of natural populations. Horticultural varieties shall not be used.

All plants for restoration shall be propagated from seed collected within the Dunes and supplemented by a qualified contract grower as needed with local stock. Collection of coast buckwheat seed on the Dunes with no adverse effect on the El Segundo blue butterfly shall take place from September 15 through June 1 of any given year. All plants listed in the plant palette shall have seed collected following flight season of the El Segundo blue butterfly. The El Segundo blue butterfly flight season is from mid June through early September. Seed shall be cleaned and stored in a cool, dry location until propagation begins in October 2004. Propagation should be conducted at a reputable nursery, allowing four to six months for seedlings to reach a suitable size for out planting.

Plant Installation

Planting of stock shall be in the existing substrate. Prior to plant installation, a qualified habitat restoration specialist shall place colored, pin flags on the enhancement site to mark planting locations of the shrubs, as described in Appendix A. The placement of these flags shall also be in concurrence with Appendix B. The limits of the restoration site shall also be clearly marked with wooden stakes and delineated using a GPS unit.

Foredune vegetation stock to be planted shall be healthy, vigorous, well-formed, and free from disease and environmental stress (e.g., windburn). Foredune vegetation stock shall be planted from 1-gallon containers into holes dug to a size twice the width and three times the depth of the container. Plants shall be removed from the container/sleeve, and if necessary, the sides of the root ball shall be scarified to promote root development. Plants shall be placed in the planting holes, as prescribed in Appendix B, so that the crown of the plant is at ground level. Excavated sand shall be used to fill the bottom of each hole to achieve the proper planting level and to backfill the remaining space around the root ball. Immediately after installation, plants shall be deep-soaked with sufficient water to reach the lower roots.

4.3.3 Coast Buckwheat Enhancement (Subsite 22)

As a result of coordination efforts undertaken between CCC, FAA, and LAWA, it has been mutually agreed to that in lieu of including coast buckwheat within the plant palette for in-situ restoration of the Southern Foredune plant community, enhancement of the 4.3-acre Subsite 22 within the HRA will be undertaken by planting the appropriate number of coast buckwheat plants sufficient to enhance existing clusters of buckwheat and to establish a new cluster. Subsite 22 has been identified as an appropriate site for the enhancement plantings due to the current low numbers of coast buckwheat individuals (approximately 56 coast buckwheat plants), thus providing opportunities to not only enhance the existing clusters of buckwheat but to establish a new cluster of plants. While Subsite 22 will be monitored concurrently with monitoring efforts at Subsite 23, no success criteria are established for plantings within Subsite 22.

Subsite 22 will be surveyed to identify appropriate areas for the enhancement of existing clusters of coast buckwheat and for the establishment of a new cluster.

SECTION 5.0
IMPLEMENTATION PLAN

This section of this habitat restoration plan describes site preparation, an irrigation plan, planting schedule, and a strategy for weed eradication. The planting plan and irrigation plan is provided in Appendix A. Planting and irrigation specifications are provided in Appendix B. In developing the implementation plan, site preparation techniques most applicable to this restoration/revegetation plan were taken from the Long-Term Habitat Management Plan and provide the basis for the invasive plant removal techniques presented in this section.[25] The planting schedule will reflect the optimal time for plant installation and the recommended irrigation plan.

5.1 SITE PREPARATION: INVASIVE PLANT REMOVAL

During the 1988–1994 restoration efforts, the most cost- and labor-intensive aspects of revegetation were completed. Nonnative plants, primarily iceplant and acacia, were largely removed within the El Segundo Blue Butterfly Habitat Restoration Area (HRA), and the site had been revegetated with plant species that are characteristic of the Los Angeles/El Segundo Dunes (Dunes). It was the intent of the Long-Term Habitat Management Plan to continue a maintenance and monitoring plan in order to support completed efforts. The success of future restoration efforts within the HRA is contingent on the removal of nonnative plants during the site preparation process and during subsequent monitoring periods. During site preparation, should nonnative species be determined to be common (greater that 15-percent cover), a buffer area of 10–15 feet around each restoration polygon will also be weeded.

5.1.1 Iceplant, Acacia, and California Buckwheat

The invasive capacity of the iceplant and acacia species and their capability of rapidly recolonizing the site make continued vigilance in their removal the first priority in vegetation management. Seeds of acacia are present in the soil and will remain viable and continue to germinate and grow for some years. Acacia also expands vegetatively from stumps left in the ground or from roots. Iceplant spreads from an extensive seed banks and expands vegetatively from parts of the plant left in the soil. Although iceplant has been removed manually throughout the 200-acre preserve area and the numbers of both sets of plants have been greatly reduced, small plants continue to regenerate throughout the site; continued removal should be carried out on a routine bases. It is anticipated that regular, intensive eradication efforts will be necessary for a period of at least five years.

California buckwheat (*Eriogonum fasciculatum*) was introduced to the Dunes area through the use of an inappropriate seed mix in hydromulching along Pershing Drive. The subsequent expansion of California buckwheat at the expense of the indigenous coastal buckwheat (*Eriogonum parvifolium*) was one factor contributing to the decline of the El Segundo blue butterfly on site. While an attempt has been made to remove California buckwheat from the Dunes, it still persists as a

[25] Environmental Science Associates. 1994. "Long Term Management Plan for Los Angeles Airport/El Segundo Dunes." Prepared for: City of Los Angeles Environmental Affairs Department, One World Way West, Los Angeles, CA 90045. Prepared by: Environmental Science Associates, 4221 Wilshire Boulevard, Suite 480 Los Angeles, CA 90010-3512; Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105; and Rudolf H.T. Mattoni, Agresearch, Inc., 9620 Heather Road, Beverly Hills, CA 90210.

problem, particularly in prairie subsites. As with iceplant and acacia, an annual inspection and program for removal of California buckwheat is required.

Subsite 23 should be inspected to determine where iceplant and acacia need to be removed. Both small and large patches of iceplant should be uprooted and removed from the HRA. Acacia stumps should be treated with herbicide as a follow-up treatment, as necessary (see precautions involving handling of herbicides discussed below). During site preparation and subsequent monitoring, California buckwheat should be identified, cut and daubed with herbicide, and hauled off site along with acacia and iceplant.

5.1.2 Exotic Annual Weeds

Mustard (*Brassica nigra*) and other exotic annual weeds, mostly grasses such as oats (*Avena sp.*), brome (*Bromus sp.*), and barley (*Hordeum sp.*), are present on site. Unlike iceplant or acacia, it is unlikely these species will ever be entirely eradicated from the site, and that should not be a management objective.

In areas within Subsite 23, where exotic annual weeds occur in large numbers and threaten young plants, these annuals should be removed by hand, preferably prior to seed set. Ongoing removal efforts are effective in reducing the recurring seed bank. Some efforts should be made to manage their numbers. In general, as the dune scrub shrubs mature and native vegetation becomes established, problems with mustard and other annual weeds should decline.

5.1.3 Nonnative Trees

Nonnative tree species remaning on site include more than one species of palm, Peruvian pepper trees, and seedlings of *Myoporum*. Nonnative tree species provide habitat for European starlings, a flocking species that constitutes a potential hazard for air strikes. In addition, these nonnative trees are inconsistent with the goal of restoring plant communities that historically occurred at the Dunes.

All nonnative trees (in addition to Acacia) within Subsite 23 should be removed prior to implementation of this habitat restoration plan. Each tree should be surveyed (prior to removal) for nesting birds, which are provided protection pursuant to the federal Migratory Bird Treaty Act. Nesting birds should be removed in the fall (between August and February) when breeding birds are not expected on site. Tree removal is best carried out by trained landscape personnel.

5.1.4 Giant Reed, Castor Bean, and Pampas Grass

While the populations of the nonnative invasive giant reed (*Arundo donax*), castor bean (*Ricinus communis*), and pampas grass (*Cortaderia sellona*) do not appear to be expanding rapidly, giant reed has a tremendous capacity to invade natural vegetation where adequate water is available. Many riparian areas in Southern California have been transformed into giant reed monocultures over the course of a few years. It is likely that giant reed's presence on site is tied to the presence of water through irrigation. However, giant reed is also present on the portion of the Dunes outside of the preserve area where there is no irrigation. Pampas grass seed is dispersed by wind and is most likely to colonize leeward areas where other weedy vegetation may have been removed prior to revegetation and recolonization of native perennials. All three species present a potential problem to vulnerable native communities.

Nonnative invasive perennial pest species such as giant reed, castor bean, and pampas grass should be eradicated using manual and chemical methods. Giant reed is most easily eradicated in early spring when the plants are producing new foliage. The canes should be cut near the ground, the stumps should be painted directly with herbicide, and all cut material should be removed from site with care so as not to leave behind any pieces of stem. Even very tiny pieces are capable of resprouting. Castor bean is also most effectively removed in spring prior to the production of seed pots. Herbicides must be applied under the supervision of an individual with a qualified applicators certificate (QAC). All individuals involved in the application of herbicides must receive safety training and wear the appropriate protective gear. With these requirements, it will be most cost-effective for existing City Landscape Crews. Remnant plant material from giant reed and castor bean is not suitable for use as compost due to the ability of these materials to rapidly recolonize from seed and plant material.

5.2 IMPLEMENTATION

Planting specifications for Valley Needlegrass Grassland and Southern Foredune restoration are detailed in Appendix A and Appendix B.

5.3 SCHEDULE

5.3.1 Valley Needlegrass Grassland

Valley Needlegrass Grassland stock shall be planted at least three years prior to the installation of the navigational aid lighting system. As described above, salvage and transplantation efforts for coastal buckwheat shall take place after the onset of winter rains and prior to April 15, 2005. The planting of stock shall also be undertaken within the same period. Installation of plants during the winter season may potentially reduce the need for supplemental irrigation and facilitate successful establishment.

5.3.2 Coast Buckwheat

All plants for restoration shall be propagated from seed collected within the Dunes and supplemented by a qualified contract grower, as needed, with local stock. Collection of coast buckwheat seed on the Dunes with no adverse effect on the El Segundo blue butterfly shall take place from September 15 through June 1 of any given year. All plants listed in the plant palette shall have seed collected following the flight season of the El Segundo blue butterfly. The El Segundo blue butterfly flight season is from mid June through early September. Seed collection shall begin in September 2004 and may continue each year thereafter, until the appropriate amount of seed is collected to achieve the required planting densities and to meet the performance criteria. Seed shall be cleaned and stored in a cool, dry location until propagation begins in October 2004. Propagation is anticipated to occur from October through December 2004. Propagation should be conducted at a reputable nursery, allowing four to six months for seedlings to reach a suitable size for out planting.

5.3.3 Planting Schedule

Coast buckwheat shall be planted at least three years prior to installation of the navigational aid lighting system. As described above, salvage and transplantation efforts shall take place after the onset of winter rains and prior to April 15, 2005, and planting of coast buckwheat stock shall also be undertaken within the same period.

5.4 IRRIGATION

Given the irregularity of rainfall in Southern California, supplemental irrigation shall be provided for two years to ensure the successful establishment of mitigation plantings. For restoration of the areas affected by installation of navigational aids and removal, water shall be manually applied from a water truck due to the infeasibility of providing a temporary irrigation system to this area (Appendix A and Appendix B).

An existing irrigation system proximal to Subsite 23 shall be used to aid in the establishment of coast buckwheat. A drip irrigation system shall be designed to accommodate the planting of clusters or groups of coast buckwheat plants. Drip irrigation systems (either surface or subsurface systems) allow for the efficient and effective use of water through precise application. Drip irrigation reduces the need to over water, reduces evaporation, and reduces or eliminates runoff. Supplemental irrigation of plant clusters or groupings shall be undertaken during the spring and summer months (April through September), or as determined necessary (for instance, during years of exceptionally low precipitation). Supplemental irrigation shall be administered during the first three years of plant establishment and growth.

5.5 SUCCESS CRITERIA

This section addresses the success criteria of Mitigation Measures MM-BC-2, MM-BC-13, and MM-ET-4, which involve restoration. Mitigation Measures MM-BC-1 and MM-BC-9 address the implementation of best management practices (BMP) and preconstruction surveys for sensitive wildlife and thus lie outside the scope of this section.

5.5.1 Mitigation Measure MM-BC-2

Performance criteria shall include the establishment of the same number of Lewis' evening primrose as the number impacted in the first year following the distribution of seed within the mitigation site. Performance criteria shall also include confirmation of recruitment for two years following the first year that flowering is observed and establishment of individuals throughout the mitigation area within three years following the first year that flowering is observed. Final success criteria, to be determined at the end of the fifth year of monitoring, shall be characterized by the same number of Lewis' evening primrose within the mitigation site as the number impacted by navigational aid development.

5.5.2 Mitigation Measure MM-BC-13

MM-BC-13 involves the restoration of 1.4 acres of Southern Foredune, which is to be combined to the mitigation requirements of MM-ET-4 to achieve 4.4 acres of restoration within Subsite 23. The success criteria for restoration within Subsite 23 are addressed below for MM-ET-4. In addition, those areas impacted by the removal of navigational aids must be restored to Valley Needlegrass Grassland and Southern Foredune communities. The following section addresses the success criteria for each of these habitats.

5.5.3 Valley Needlegrass Grassland

Success criteria to be met include the attainment of at least a 10-percent cover of native grass in the first year, and 20-, 30-, 40-, and 45-percent cover of native grass species over a five-year period, as determined by the point-intercept transect method conducted during the spring, to facilitate the

identification of native annual species. Additional success criteria to be met include the attainment of at least a 20-percent cover of native species[26] during the first year, and 30-, 40-, 50-, and 60-percent cover of native species over a five-year period, and the attainment of a diversity coefficient of 7 at the end of five years, with no more than 15-percent cover in nonnatives and 0-percent cover in nonnative invasive species, as defined by the California Exotic Pest Plant Council. A diversity coefficient of 7 indicates that seven species (from the plant palette of 10 species) and additional native species typical of the habitat shall be present, with at least four native species having greater than 5-percent cover. It is anticipated that volunteer native species typical of the habitat will occupy the restoration polygons. The California Department of Fish and Game (CDFG) has adopted a 10-percent threshold of native grass cover as its criteria for significance of native grasslands.[27] If monitoring discerns any failure in performance goals, remedial plantings shall be undertaken. Habitat restoration shall be conducted by a qualified habitat restoration specialist.

5.5.4 Southern Foredune

Performance criteria to be met include the attainment of 10-, 20-, 30-, 40-, and 45-percent cover of native species, including perennials and annuals typical of the habitat, over a five-year period, as determined by the point-intercept method conducted during the spring, to facilitate the identification of annual species. Additional performance criteria to be met include the attainment of no more than 15-percent cover of nonnative species and 0-percent cover of nonnative invasive species, as defined by the California Exotic Pest Plant Council. In addition, the following model, as prescribed in the Long-Term Management Plan, shall be adhered to with the final value, in conjunction with a 45-percent cover of native species, determining the final success criteria (Table 5.5.4-1, *Southern Foredune Model: Subsite 23*). If monitoring discerns any failure in performance goals, remedial plantings shall be undertaken. Habitat restoration shall be conducted by a qualified habitat restoration specialist. As a result of coordination efforts between CCC, FAA, and LAWA, the coast buckwheat to be planted within Subsite 22 will be monitored and irrigated but will not be subject to success criteria.

[26] Native species will include those derived from the plant palette as well as any other species typical of the community.

[27] Keeley, J.E. 1990. "The California Valley Grassland." *Endangered Plant Communities of Southern California*, Southern California Botanists Special Publication, No. 3, p. 17.

TABLE 5.5.4-1
SOUTHERN FOREDUNE MODEL: SUBSITE 23

Plant Species	Model	Initial	Final
Primary perennial species for foredune revegetation			
Eriogonum parvifolium	130	200	130
Ericameria [Haplopappus] ericoides	20	30	20
Encelia californica	50	75	50
Isomeris arboreus	40	60	40
Galium angustifolium	50	75	50
Opuntia littoralis	22	33	22
Secondary plant species of the foredunes to be introduced as container plants			
Calystegia macrostegia	25	30	25
Corethrogyne filaginifolia	100	150	100
Senecio douglasii	25	30	25
Distichlis spicata	10	15	10
Dudleya lanceolata	25	30	25
Artemisia californica	10	15	10

5.5.5 Mitigation Measure MM-ET-4

Success of the enhancement effort shall be determined through the results of coast buckwheat and vegetation monitoring. Less than ten10 coast buckwheat plants exist in the vicinity of navigational aids scheduled for removal, and have supported the butterfly in two (1998 and 2000) of the seven years of directed surveys.[28] Five coast buckwheat plants were determined to be within 100 feet of the centerline of navigational aids. The two closest plants (2) were approximately 39 feet from the centerline of a single light standard and localizer antenna. Given that the numbers of salvaged coast buckwheat will be relatively low, the coast buckwheat to be planted pursuant to MM-BC-13 will be combined with the salvaged coast buckwheat to achieve the success criteria described below, within Subsite 23. The following success criteria are based on coast buckwheat survival and shall be met by the end of each monitoring year. If a success criterion is not met during a monitoring year, then another year of monitoring shall be added. Remedial action shall be taken to bring the enhancement site into compliance with the success criteria. The success criteria do not have to be met consecutively for five years.

Year 1

- Survival of 160 coast buckwheat per acre
- Exotic species cover not exceeding 15 percent

Year 2

- Survival of 160 coast buckwheat per acre
- Exotic species cover not exceeding 15 percent

[28] Sapphos Environmental, Inc. 2003. Updated Biological Assessment Technical Report for the Federally Endangered El Segundo Blue Butterfly (*Euphilotes battoides allyni*) at Los Angeles International Airport, Los Angeles, California. Prepared for: Los Angeles World Airports, One World Way West, Los Angeles, CA 90009. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

Year 3

- Survival of 160 coast buckwheat per acre
- 20-percent increase in cover of coast buckwheat
- 50-percent flowering of coast buckwheat
- Exotic species cover not exceeding 15 percent

Year 4

- Survival of 130 coast buckwheat per acre
- 20-percent increase in cover of coast buckwheat
- 70-percent flowering of coast buckwheat
- Exotic species cover not exceeding 15 percent

Year 5

- Survival of 130 coast buckwheat per acre
- 130 coast buckwheat individuals shall be greater than 2 years of age
- The average coast buckwheat plant shall cover 9 square feet. This determination will be made by measuring 40 per 160 coast buckwheat individuals.
- 90-percent flowering of coast buckwheat
- Exotic species cover not exceeding 15 percent

5.5.6 Southern Foredune

Performance criteria to be met include the attainment of 10-, 20-, 30-, 40-, and 45-percent cover of native species over a five-year period, as determined by the point-intercept method. In addition, the following model, as prescribed in the Long-Term Management Plan, shall be adhered to with the final value, in conjunction with a 45-percent cover of native species determining the final success criteria. Table 5.5.6-1, *Southern Foredune Model: In-Situ Restoration*, describes the model for final success criteria for in-situ restoration of individual species within those areas to be impacted by the removal of navigational aids, and to subsequently receive restoration of southern foredune vegetation.

TABLE 5.5.6-1
SOUTHERN FOREDUNE MODEL: IN-SITU RESTORATION

Plant Species	Model	Initial	Final
Primary perennial species for foredune revegetation			
Ericameria [Haplopappus] ericoides	20	385	20
Encelia californica	50	146	50
Isomeris arboreus	40	195	40
Galium angustifolium	50	129	50
Opuntia littoralis	22	125	22
Secondary plant species of the foredunes to be introduced as container plants			
Calystegia macrostegia	25	158	25
Corethrogyne filaginifolia	100	225	100
Senecio douglasii	25	88	25
Distichlis spicata	10	62	10
Dudleya lanceolata	25	46	25
Artemisia californica	10	164	10

5.6 METHODS OF JUDGING SUCCESS CRITERIA

In order to best judge the success of this habitat restoration plan, success criteria reflect the research conducted by Dr. Rudolph Mattoni, in association with Environmental Science Associates and Sapphos Environmental, Inc.[29,30] The success criteria mirror those of the Long-Term Habitat Management Plan and restoration efforts conducted in the HRA from 1988 to 1994. Model densities in Tables 5.5.4-1 and 5.5.6-1 refer to data derived from surveys conducted in the relatively undisturbed fragments of foredune and backdune communities at the Dunes. Initial densities refer to original planting densities, and final densities are the desired target at completion of restoration.

Those values for coast buckwheat were further derived from values established by the U.S. Fish and Wildlife Service in their non-jeopardy Biological Opinion, issued April 20, 2004, regarding the impacts of Alternative D described in the Supplement to the Draft Environmental Impact Report (EIR) for the LAX Master Plan on the federally endangered Riverside fairy shrimp and El Segundo blue butterfly.[31] Densities for coast buckwheat, as the host plant of the El Segundo blue butterfly, are intended to ensure the conservation of an ecosystem upon which the endangered El Segundo blue butterfly depend and ensure the successful conservation of the species. Those success criteria for MM-ET-4, with respect to coast buckwheat densities by year, reflect the requirements of the

[29] Mattoni, R.H.T. 1990. "Species Diversity and Habitat Evaluation Across the El Segundo Sand Dunes at LAX." Prepared by: Mattoni, R.H.T., Agresearch, Inc. Prepared for: The Board of Airport Commissioners, One World Way West, Los Angeles, CA 90009.

[30] Environmental Science Associates. 1994. "Long Term Management Plan for Los Angeles/El Segundo Dunes." Prepared for: City of Los Angeles Environmental Affairs Department, One World Way West, Los Angeles, CA 90045. Prepared by: Environmental Science Associates, 4221 Wilshire Boulevard, Suite 480 Los Angeles, CA 90010-3512; Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105; and Rudolf H.T. Mattoni, Agresearch, Inc., 9620 Heather Road, Beverly Hills, CA 90210.

[31] U.S. Fish and Wildlife Service. 2004. *Biological Opinion for Los Angeles International Airport Master Plan, City of Los Angeles, Los Angeles County, California.* Contact: U.S. Fish and Wildlife Service, Ecological Services, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92009.

April 20, 2004, Biological Opinion, and reiterated in the El Segundo Blue Butterfly Habitat Enhancement and Monitoring Plan.[32]

Final densities derived from a comparing a census of the restoration site to a fixed standard are hoped to match the model densities, as established in relatively undisturbed sites of the same vegetation type. Maximum allowable differences between the restoration value and the reference value for each success criterion are in all cases null, with the exception of lance-leaf dudleya. Given the strict accordance with the reference sites, initial planting will require augmenting with broadcast seed, which should suffice to establish final densities.

5.7 PROVISIONS FOR FURTHER ACTION

Given the success of the 1988–1994 restoration efforts, it is unlikely the success criteria associated with restoration or habitat enhancement will not be met. It should be noted however that the continued effort to remove exotic, invasive species is of primary importance in maintaining the restoration work to be conducted. Failure to continue the removal of nonnative flora is likely to jeopardize the recolonization of native plant species. Such concern will remain until at least 75 percent of the plant cover consists of native species. However, it is important to note that at some point, as native revegetation plantings mature, recolonize, and become more competitive, removal of exotics will become less critical. In fact, in areas where native vegetation has become well-established, continued weed removal efforts are likely to cause more damage than good. Should monitoring efforts after five years reveal that success criteria are not being met, then the FAA, in cooperation with the CCC and CFWO, will determine the set of additional and/or alternative measures necessary for the restoration project to achieve success. It is in the best interest of the future of the HRA to resume restoration efforts within its own boundaries. However, if the HRA proves incompatible with the goals of this habitat restoration plan, an alternative mitigation site will require choosing, along with the creation of a restoration and monitoring plan similar to this habitat restoration plan.

[32] Sapphos Environmental, Inc. 2004. "El Segundo blue butterfly Habitat Enhancement and Monitoring Plan." Prepared for: Federal Aviation Administration, 15000 Aviation Boulevard, Hawthorne, CA 90261, and Los Angeles World Airports, One World Way, Los Angeles, CA 90045. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

SECTION 6.0
MONITORING AND MAINTENANCE PLAN

Responsible Agency: U.S. Department of Transportation, Federal Aviation Administration (FAA)

Reviewing Agencies: California Coastal Commission (CCC)

Monitoring and maintenance of the enhancement site is essential to the long-term success of this mitigation effort. The Monitoring and Maintenance Plan details preconstruction monitoring efforts as well as the long-term management approach. This plan is intended to ensure the successful achievement of the goals and objectives of Mitigation Measures MM-BC-1, MM-BC-2, MM-BC-9, MM-BC-13, and MM-ET-4, as described in Section 3.0, *Project Goals*. Final monitoring for success will occur after at least three years during which no remediation or maintenance activities have occurred, other than weeding.

6.1 PRECONSTRUCTION SURVEY FOR THE CONSERVATION OF FAUNAL RESOURCES

6.1.1 Mitigation Measure MM-BC-9

The primary purpose of MM-BC-9 is to compensate for the loss of habitat units for sensitive species within the Los Angeles International Airport Airfield Operations Area (AOA), which is outside the scope of this plan. A component of this measure, as it relates to the construction of navigational aids in the Los Angeles/El Segundo Dunes (Dunes), is the requirement for preconstruction surveys to determine the presence of individuals of sensitive arthropod species, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl. Species accounts for each of the species to be surveyed for are located in Appendix C, *Background of the Los Angeles/El Segundo Dunes*. Should any sensitive wildlife be observed, they are to be relocated to suitable habitat within the HRA. Relocation efforts should be undertaken by a qualified wildlife biologist.

6.1.2 Sensitive Arthropod Surveys

Within and adjacent to those areas to be impacted by the installation or removal of navigational aids, the vegetation is sparse and largely nonnative. Based on surveys conducted from 1996–1998, it was determined that these areas are unsuitable for the sensitive arthropods. As a preventative measure, all ground-dwelling arthropods will, in all likelihood be trapped (and relocated) according to the methods described below for trapping of the silvery legless lizard and the San Diego horned lizard. In addition, immediately prior to construction activities, all herbaceous and non-herbaceous plants will be shaken to remove to flush out insects prior to grubbing.

6.1.3 Sensitive Reptile Surveys

Pitfall traps will be established three days prior to construction in all areas to be impacted by the installation or removal of navigational aids in order to isolate and relocate the silvery legless lizard, the San Diego horned lizard, and any sensitive arthropods that may be present. Each trap will be comprised of a 5-gallon bucket that is embedded in the ground with the mouth of the bucket leveled with the soil surface. The opening will be covered by a slightly raised lid or stone to keep

out predators and prevent trapped animals from being overheated during the day or drowned during rains.

Each trap shall be censused three times during daytime intervals: early morning, midday, and late afternoon. Active opportunistic searches shall be conducted for the silvery legless lizard and the San Diego horned lizard reptiles over a wider area. These searches shall generally be comprised of walking slowly within and adjacent to all areas impacted by the installation or removal of navigational aids habitats, looking for active reptiles and investigating under logs, rocks or other ground debris for sheltering animals. All trapped animals and arthropods shall receive relocation to a suitable habitat within the HRA by a qualified wildlife biologist.

6.1.4 Burrowing Owl Surveys

Burrowing owl observations have been highly infrequent and isolated instances. There are no known burrows within the Dunes that would support burrowing owls. Prior to the installation or removal of navigational aids in the northern portion of the HRA and areas adjacent to the HRA, a qualified biologist will conduct surveys for burrowing owls. If individuals are identified, they will be flushed from the construction site.

6.2 PRECONSTRUCTION MONITORING

Mitigation Measure MM-BC-1 details the extent and methods to be used for preconstruction monitoring of the navigational aids.

6.2.1 MM-BC-1: Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area

Prior to the initiation of construction of LAX Master Plan components to be located within or adjacent to the HRA, a preconstruction evaluation shall be conducted to identify and flag specific areas of state-designated sensitive habitats located within 100 feet of construction areas. Subsequent to the preconstruction evaluation, a preconstruction meeting shall be conducted with all construction personnel, including the landscape contractor, grading contractor, and all others conducting operations within the HRA to explain the sensitivity of the areas outside the limits of grading, the need to avoid them, and the potential consequences of failure to comply with the protocols for working on the site. A written set of preconstruction briefing notes shall be prepared and discussed with the construction contractor. The briefing notes shall describe the mitigation requirements established by the permitting agencies.

Construction avoidance measures include erecting a 10-foot-high, tarped, chain-link fence where the construction or staging area is adjacent to state-designated sensitive habitats to reduce the transport of fugitive dust particles related to construction activities. Soil stabilization, watering, or other dust control measures, as feasible and appropriate shall be implemented to reduce fugitive dust emissions during construction activities within 2,000 feet of the HRA, with a goal to reduce fugitive dust emissions by 90 to 95 percent. In addition, to the extent feasible, no grading or stockpiling for construction activities should take place within 100 feet of a state-designated sensitive habitat. Provisions shall be incorporated for the identification of additional construction avoidance measures to be implemented adjacent to state-designated sensitive areas. All construction avoidance measures that address best management practices (BMP) shall be clearly stated within construction bid documents. In addition, FAA shall include a provision in all construction bid documents requiring the presence of a qualified environmental monitor, which

shall be responsible for those activities detailed below. Construction drawings shall indicate vegetated area within the HRA as "Off-Limits Zone."

In addition, MM-BC-1 states that maintenance and management efforts prescribed in El Segundo Dunes Long-Term Habitat Management Plan shall continue to be carried out as prescribed. Since the success of this mitigation effort is largely contingent on the continued removal of nonnative plants, those maintenance and monitoring efforts that were detailed in Section 5.1, *Site Preparation: Invasive Plant Removal,* should follow the same interval as described in Section 6.5, *Coast Buckwheat.*

6.3 CONSTRUCTION MONITORING

Monitoring of construction activities to ensure adherence to the avoidance measures outlined in Mitigation Measure MM-BC-1 is an important part of the mitigation of impacts to sensitive biological resources. A qualified biologist shall be on site during the entire construction phase. Monitoring results will be documented in monitoring notes and summarized in a monitoring report submitted to the CCC and CFWO.

The biological monitor shall ensure that the following guidelines for avoidance are adhered to during construction:

- Staging of equipment and materials will be accomplished outside of occupied habitat areas of the HRA.
- Equipment or vehicles driven and/or operated within the HRA will use existing roadways and paved and/or gravel areas.
- Equipment or vehicles driven and/or operated within native habitat will not leak oils or fuels that, if introduced to the sandy or soil, could be deleterious to living organisms.
- The cleanup of spills of oil or fuel will take place as soon as they are discovered.
- No rubbish will be deposited, and the construction contractor will be in compliance with all litter pollution laws.
- Disturbance or removal of vegetation will not exceed the surveyed and flagged limits of grading.

6.4 LEWIS' EVENING PRIMROSE

A component of Mitigation Measure MM-BC-2 is to implement a monitoring plan to census individuals of Lewis' evening primrose for a period of no more than five years. Monitoring shall be undertaken on a quarterly basis for the first three years following planting, and twice a year thereafter for a total of five years. Monitoring shall include the establishment of an equal number of plants as that impacted in the installation and removal of navigational aids in the HRA in the first year following the distribution of seed in the mitigation site. Monitoring shall also include confirmation of recruitment for two years following the first year that flowering is observed and establishment of individuals throughout the mitigation area within three years following the first year that flowering is observed. Final success criteria, to be determined at the end of the fifth year of monitoring, shall be characterized by the same number of Lewis' evening primrose within the mitigation site as the number impacted by navigational aid development.

6.5 COAST BUCKWHEAT

In order to meet the criteria of Mitigation Measure MM-ET-4, a census of coast buckwheat shall occur to ensure the successful restoration of El Segundo blue butterfly habitat. Since the successful restoration of El Segundo blue butterfly habitat is strictly contingent on the success of coast buckwheat (*Eriogonum parvifolium)* establishment, monitoring is directed at ensuring successful enhancement of Southern Foredune habitat in support of the El Segundo blue butterfly through the attainment of success criteria goals. Monitoring shall be performed by a qualified botanist with appropriate experience in native habitat restoration. The monitoring interval extends over a five-year period following planting of coast buckwheat within Subsite 23 of the Habitat Restoration Area:

- Quarterly monitoring required during the first three years
- Biannual monitoring in the fourth and fifth years

Quarterly and biannual monitoring of coast buckwheat shall include both qualitative and quantitative observations of survival, growth, and flowering. Census counts of coast buckwheat shall include numbers in addition to the number of plants and measurements for the areas of each plant, for the purposes of calculating absolute cover. Observations of El Segundo blue butterfly's use of coast buckwheat shall also be conducted during the flight season of the butterfly. Standard data log sheets shall be established and used throughout the monitoring period. The data sheets shall include a section to record ambient site conditions at the time of monitoring (i.e., date, time, weather, and special condition) and standard data to be collected for each parameter to be monitored. Data collection for some parameters will vary seasonally.

Other vegetation shall be surveyed only once annually using the line-intercept method along permanent vegetation transects. This method shall evaluate vegetative percent cover (total cover as well as cover of individual species), including the cover of coast buckwheat. Vegetation surveys shall be conducted when the dominant vegetation has matured and both early and late season species can be correctly identified. Standard data log sheets shall also be developed for vegetation surveys and used throughout the monitoring period.

A photographic record of the enhancement site shall be kept through the end of the monitoring program. Selection of photographic stations shall provide appropriate views and orientations for a comprehensive assessment of the progress of enhancement efforts. Photographs shall be taken from the same vantage point and in the same direction, and shall reflect material to be discussed in the monitoring reports. All photographs shall be annotated and recorded on standard field data sheets. When percent cover estimates are made of herbaceous vegetation, photographs shall be taken of sampling transects. Photographs for disturbances or special conditions shall be taken as needed.

6.6 MONITORING REPLACEMENT OF STATE-DESIGNATED SENSITIVE HABITATS

As a component of Mitigation Measure MM-BC-13, monitoring for restored Southern Foredune and Valley Needlegrass Grassland will be required for MM-ET-4. Monitoring will occur on a quarterly basis for the first three years following planting, and twice a year thereafter in order to achieve the success criteria detailed in Section 5.6. Monitoring for success will take the form of a census for those species listed in the plant palette. In addition, other vegetation will be surveyed once annually using the line-intercept method to determine percent cover of native species. Sampling shall be conducted with sufficient replication to detect a difference of 10-percent absolute ground cover with a single sample t-test with a statistical power of 90 percent at an alpha of 0.10. The

necessary sample size shall be estimated with a statistical power analysis in the monitoring plan using variance estimates from surveys of reference sites within the Dunes.

6.7 MAINTENANCE PLAN

FAA shall be responsible for all annual operations and maintenance costs required to achieve the success criteria associated with habitat enhancement and monitoring of the enhancement site.

Annual operations and maintenance activities shall include supplemental planting to attain the standards described in the success criteria, and/or to replace those individuals lost as a result of some severe disturbance to the site, installation and maintenance of the irrigation system, trash removal, and weed eradication as described in Section 5.1 of this habitat restoration plan.

SECTION 7.0
REPORTING

7.1 PRECONSTRUCTION MONITORING REPORT

The U.S. Department of Transportation Federal Aviation Administration (FAA) shall submit a preconstruction monitoring report to the executive director of the California Coastal Commission (CCC) upon completion of preconstruction activities for the installation of the navigational aid system within the El Segundo Blue Butterfly Habitat Restoration Area (HRA). These activities include surveys for Lewis' evening primrose (MM-BC-2), sensitive arthropod species, silvery legless lizard, San Diego horned lizard, and the burrowing owl (MM-BC-9). In addition, monitoring efforts pursuant to MM-BC-1 shall be carried out to provide the CCC with an accurate assessment of site conditions prior to construction. This report will include standard data log sheets, including a section to record ambient site conditions at the time of monitoring (i.e., date, time, weather, and special condition). A photographic record of the enhancement sites and Subsite 23 shall be established in the preconstruction monitoring report. Selection of photographic stations shall provide appropriate views and orientations for a comprehensive assessment of the progress of enhancement efforts. Photographs shall be taken from the same vantage point and in the same direction, and shall reflect material to be discussed in the monitoring reports. All photographs shall be annotated and recorded on standard field data sheets. Photographs for disturbances or special conditions shall be taken as needed.

FAA shall also submit a monitoring report to the U.S. Fish and Wildlife Service, Carlsbad Field Office (CFWO), upon completion of nocturnal observations of El Segundo blue butterfly behavior during the first flight period after installation of the navigational aid system.

7.2 POSTCONSTRUCTION REPORT

Within 30 days of planting of foredune vegetation stock, FAA shall be responsible for documenting and reporting the physical and biological "as built" condition of the restoration site. The Initial Conditions Report shall include photographic documentation of site conditions following the initial restoration efforts in addition to a report documenting restoration strategies undertaken and any deviations undertaken not present in this report. The Initial Conditions Report shall include actual planting densities and document whether implementation of the planting design was undertaken according to specifications.

7.3 ANNUAL REPORTING

FAA shall submit annual monitoring reports to the executive director of the CCC by December 1 of each specified monitoring year. If monitoring continues past the five years due to the failure of a success criterion, then a monitoring report shall be filed for that year as well. The report shall discuss the results of monitoring for Mitigation Measures MM-BC-2, MM-BC-13, and MM-ET-4, as they relate to habitat restoration or enhancement. Only the first year annual monitoring report shall address MM-BC-1 and MM-BC-9, since they pertain only to preconstruction efforts. All field notes (standard data collection sheets) and photographs from designated photographic monitoring stations shall be included in the annual report.

SECTION 8.0
REFERENCES

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Sapphos Environmental, Inc. 2004. "El Segundo blue butterfly Habitat Enhancement and Monitoring Plan." Prepared for: Federal Aviation Administration, 15000 Aviation Boulevard, Hawthorne, CA 90261, and Los Angeles World Airports, One World Way, Los Angeles, CA 90045. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

U.S. Department of Transportation, Federal Aviation Administration. August 2004. Federal Aviation Administration, Los Angeles International Airport, City of Los Angeles, California Coastal Consistency Determination for Relocation of Existing Navigational Aids. Contact: U.S. Department of Transportation, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591.

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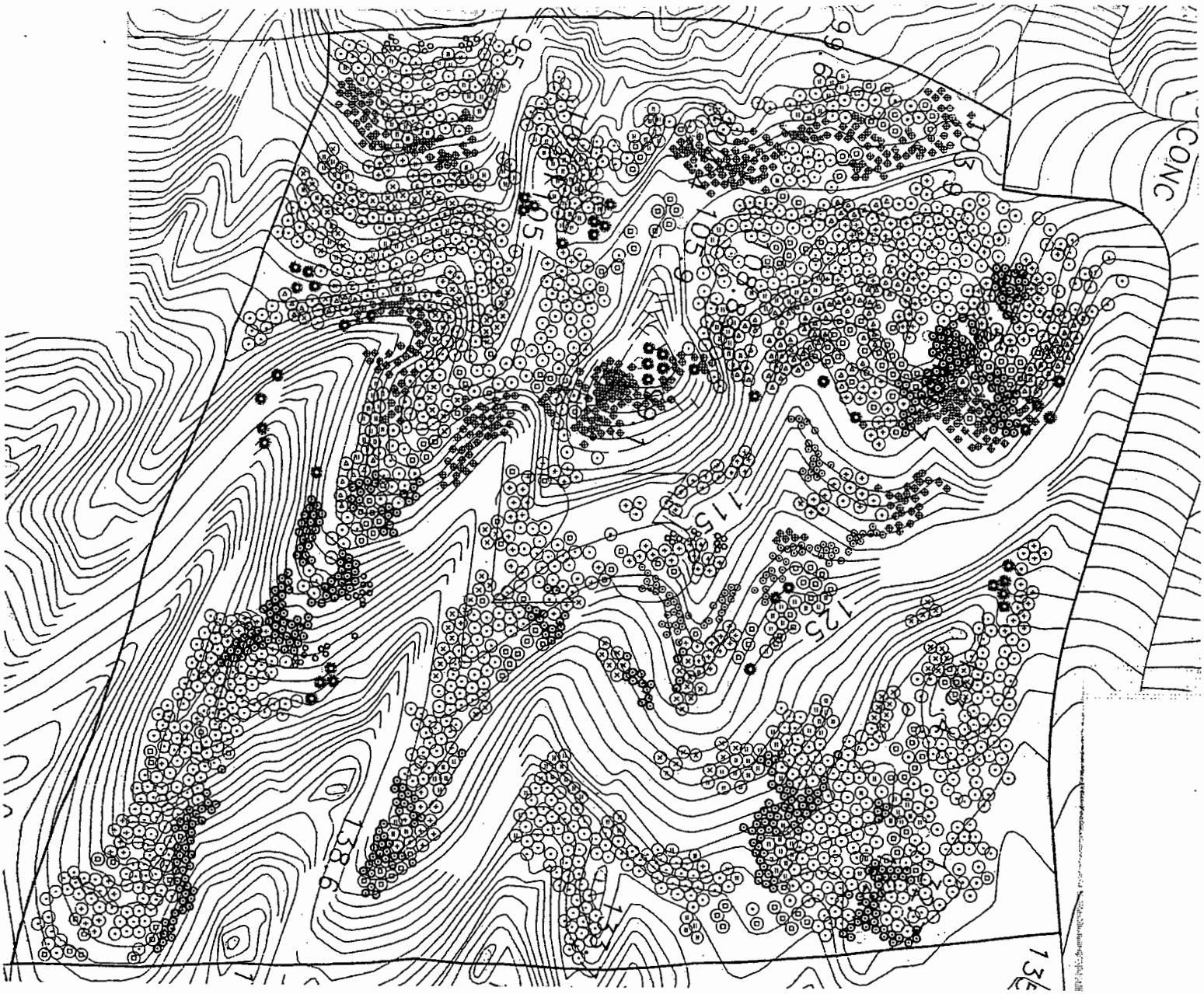
APPENDIX A
DRAFT IMPLEMENTATION PLAN

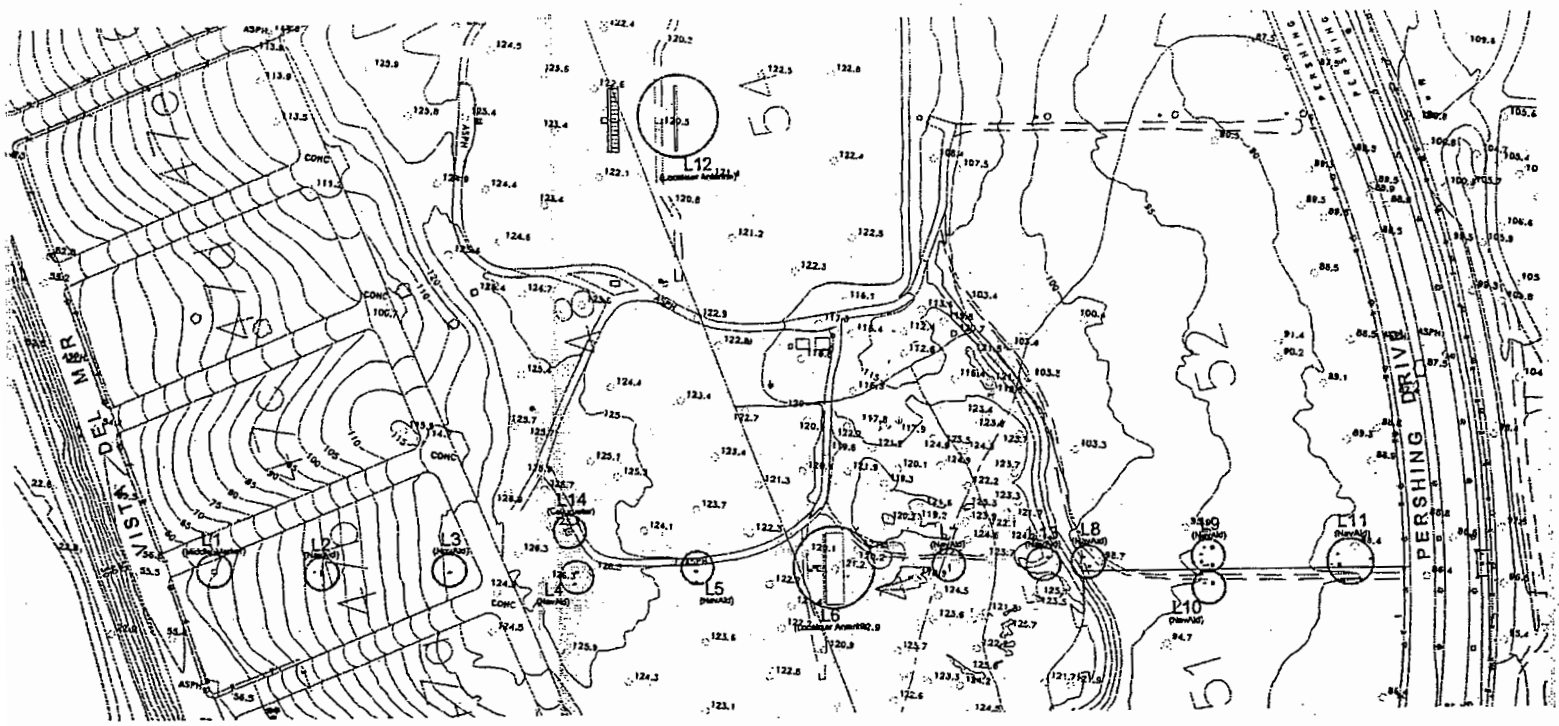


Subsite 23 Restoration Planting Plan. Plant palette comprised of California buckwheat, coast goldenbush, California encelia, bladderpod, narrow-leaved bedstraw, coastal prickly pear, morning glory, California aster, butterweed, saltgrass, lance-leaf dudleya, California sagebrush.

Source: Los Angeles/El Segundo Dunes Habitat Restoration Plan, Federal Aviation Administration, October 29, 2004.

Subsite 23 Irrigation Plan.

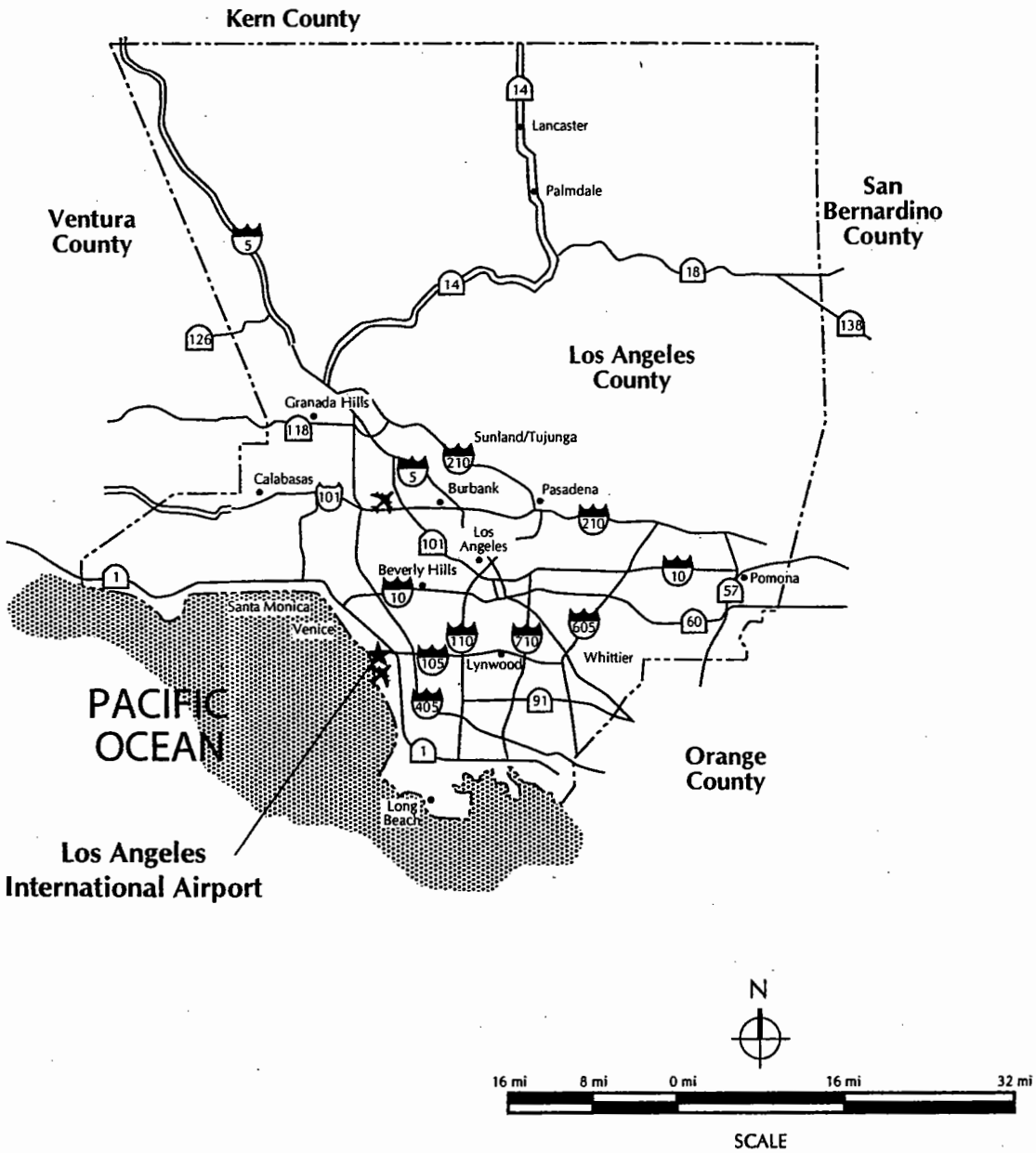
Source: Los Angeles/El Segundo Dunes Habitat Restoration Plan, Federal Aviation Administration, October 29, 2004.



Navaid Removal Area Revegetation Plant List. Circled areas L1 through L14 are existing navigation aid sites that will be abandoned and restored. Plant palette comprised of coast goldenbush, California encelia, bladderpod, narrow-leaved bedstraw, coastal prickly pear, morning glory, California aster, butterweed, saltgrass, lance-leaf dudleya, California sagebrush, and nodding feather grass.

Source: Los Angeles/El Segundo Dunes Habitat Restoration Plan, Federal Aviation Administration, October 29, 2004.

EXHIBITS

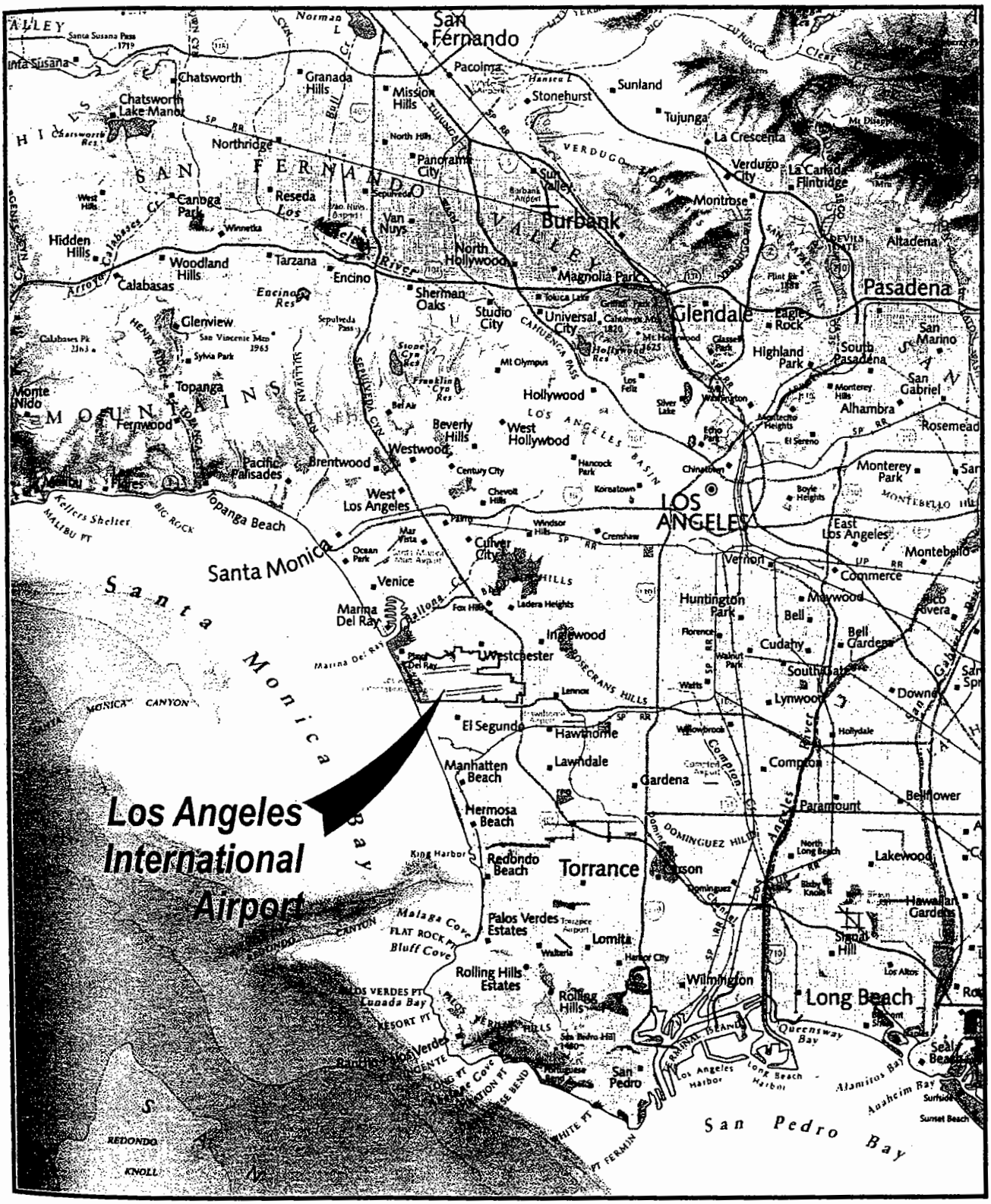


LEGEND

★ Project Location

EXHIBIT NO. 1

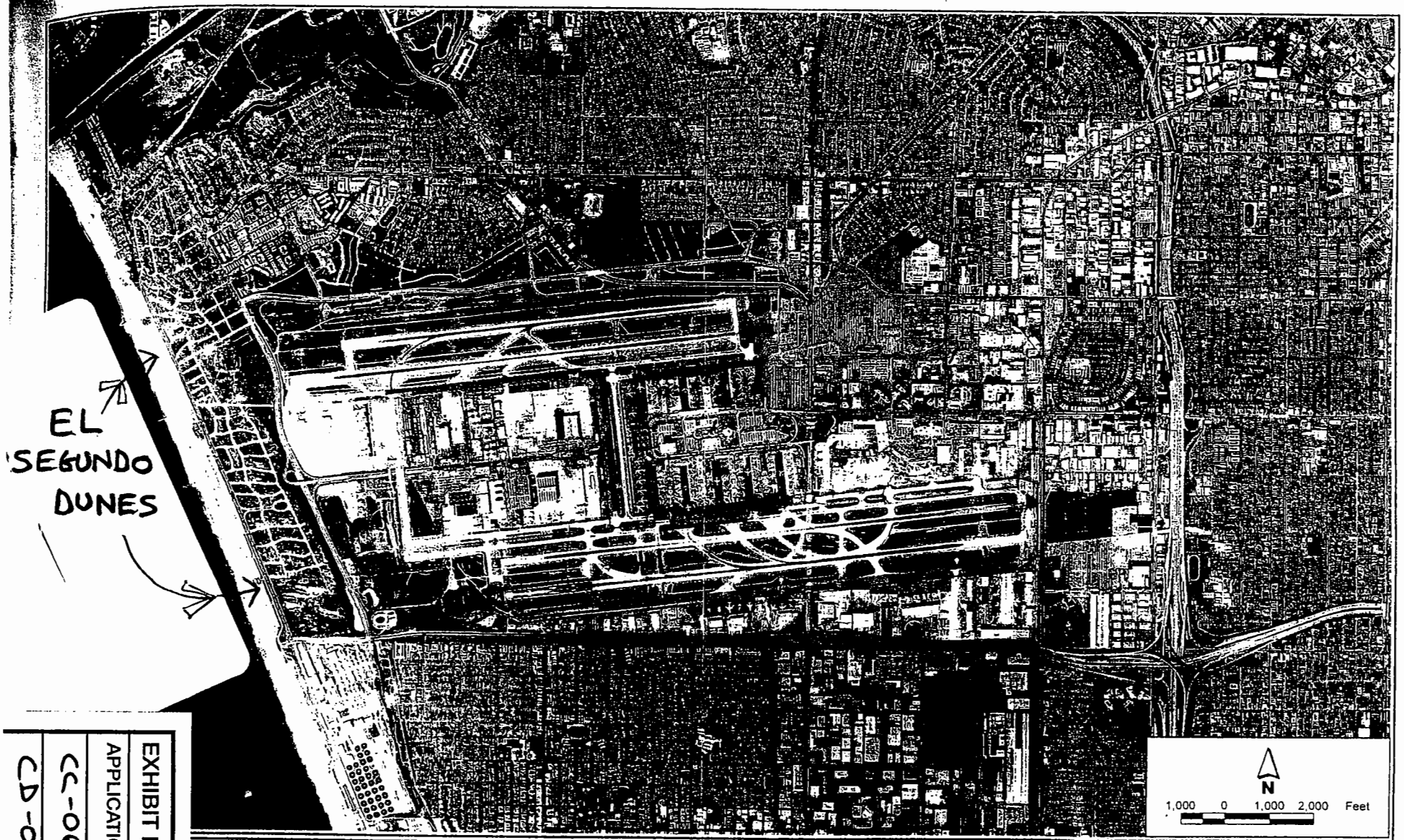
APPLICATION NO.
CC-061-04
CD-062-04



Source: 1992 Raven Maps & Images
Prepared By: Landrum & Brown, 05/03

LAX Master Plan - Supplement to the Draft EIS/EIR	Location Map

EXHIBIT NO. 2
APPLICATION NO.
CC-061-04
CD-062-04

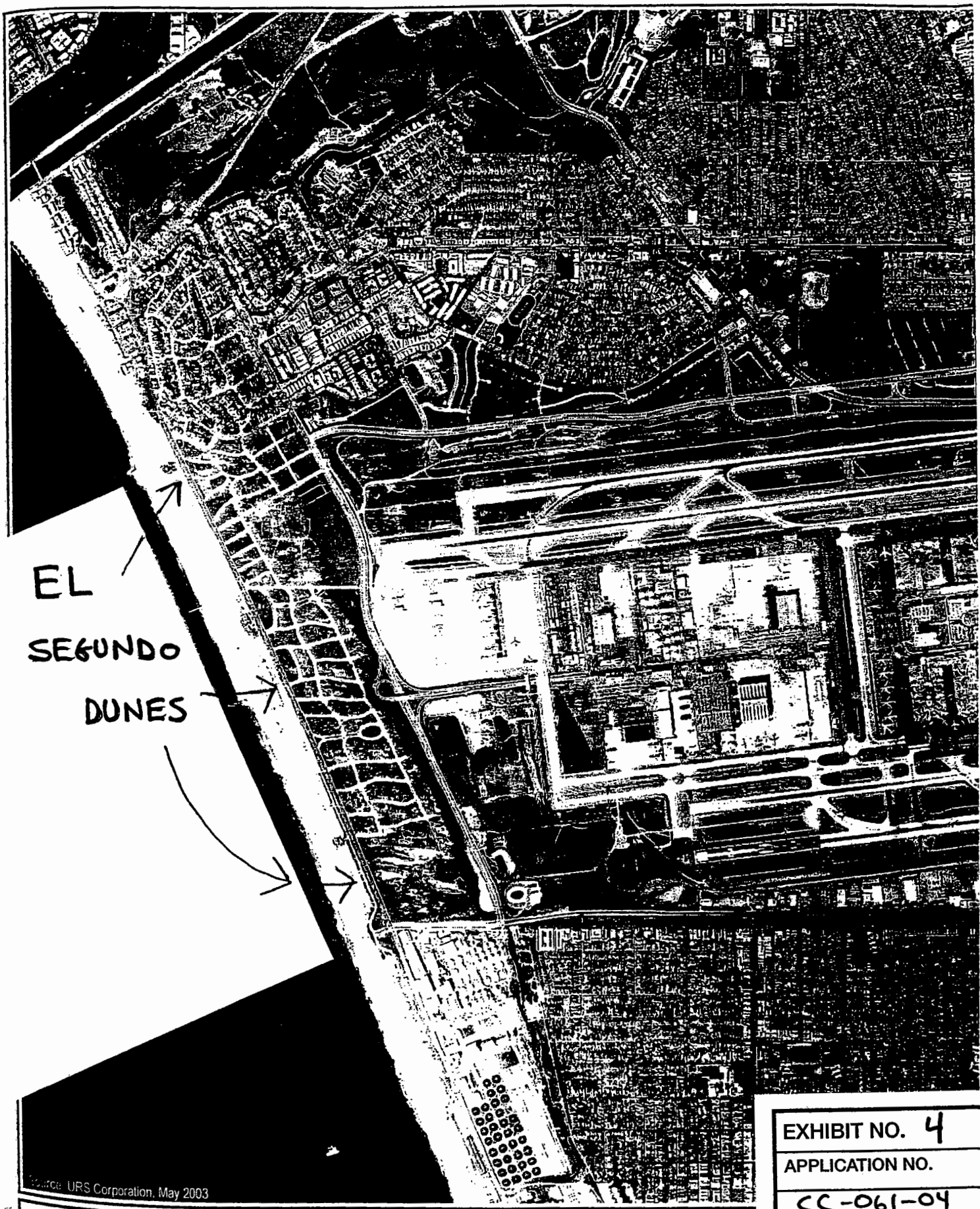


Master Plan - Supplement to the Draft EIS/EIR

LAX Aerial Photo 2000

Figure
S1-2

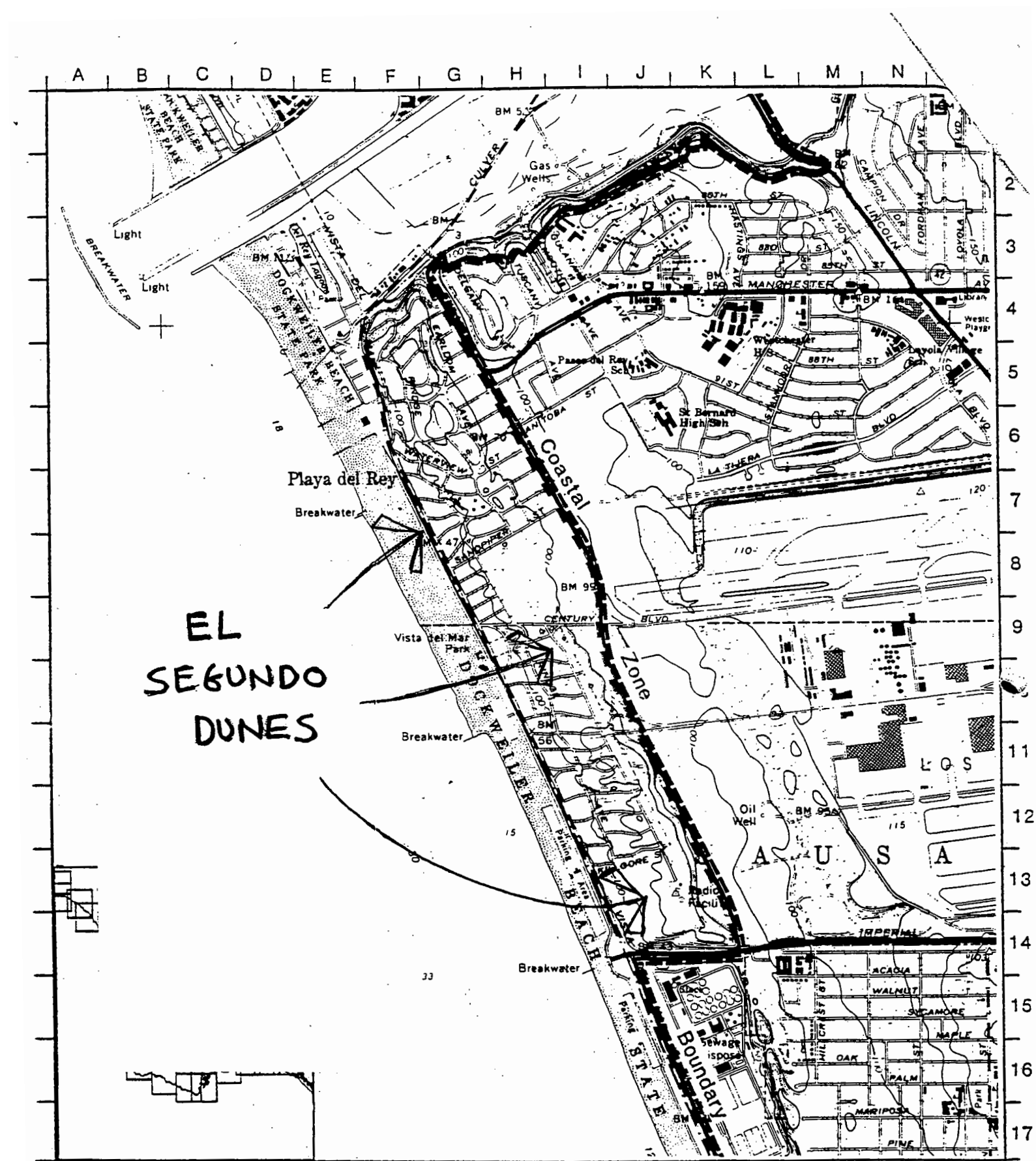
EXHIBIT NO. 3
APPLICATION NO.
CC-061-04
CD-062-04



Source: URS Corporation, May 2003

LAX Master Plan - Supplement to the Draft EIS/EIF

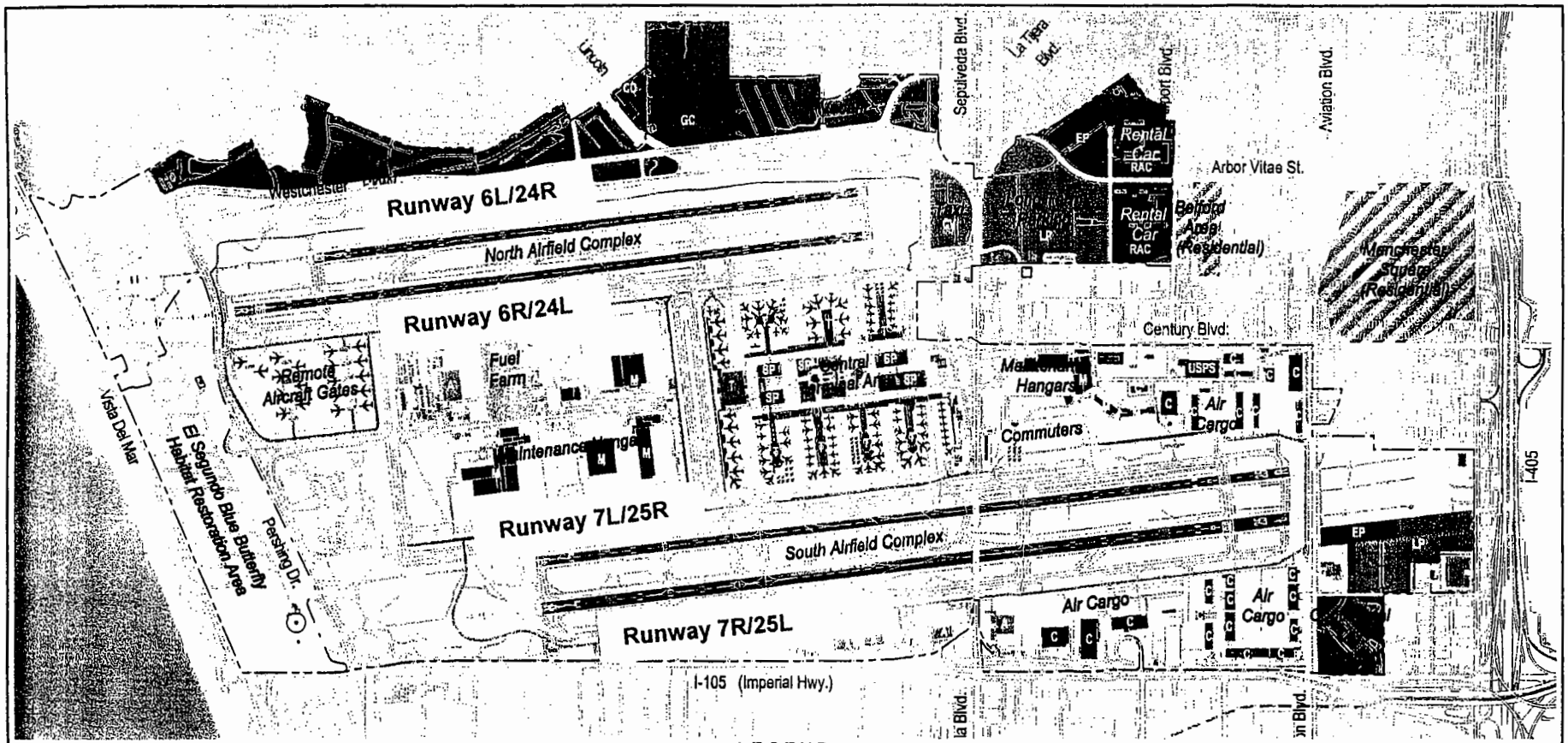
EXHIBIT NO. 4
APPLICATION NO.
CC-061-04
CD-062-04



California Coastal Commission

County of Los Angeles

EXHIBIT NO. 5
APPLICATION NO.
CC-061-04
CD-062-04



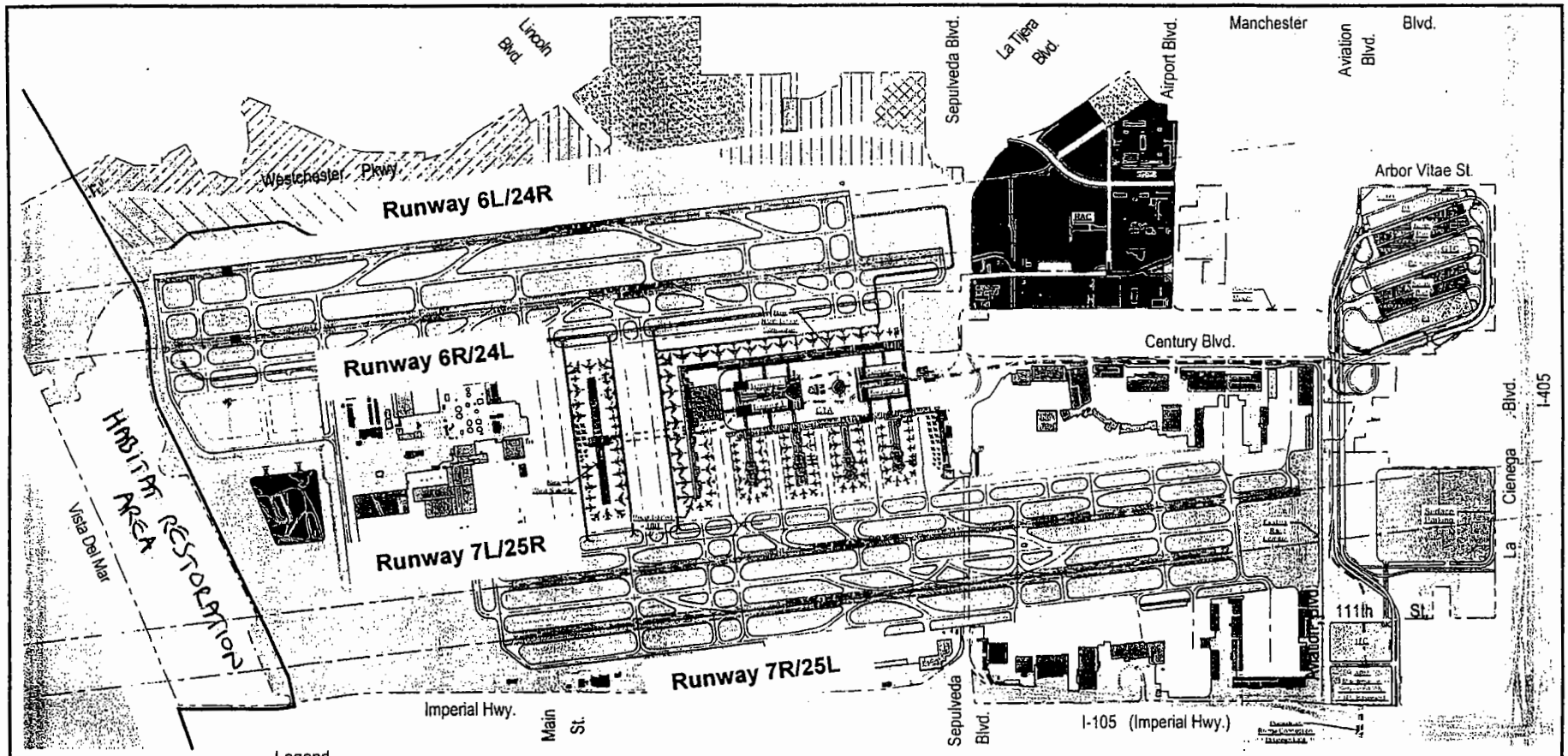
LEGEND

Airfield/Airport Open Space	C Cargo Buildings	LP Long-Term Public Parking
El Segundo Blue Butterfly Habitat Restoration Area	M Maintenance Facilities	SP Short-Term Public Parking
Runways	Ancillary Facilities	RAC Rental Car Facility
Taxiways/Aircraft Aprons	Fuel Farm	GC Golf Course/Open Space/Recreation
Roadways	CV Commercial Vehicle Holding Area	Residential ANMP Acquisition Area
T Terminal Buildings	EP Employee Parking	Light Rail Transit
	CD Collateral Development	Navigational Aids

2,400'
1,600'

LAX Master Plan	Existing Conditions 1997	Figure 1

EXHIBIT NO. 6
APPLICATION NO.
CC-061-04
CD-062-04



LAX Master Plan	Alternative D - 2015 Enhanced Safety and Security Plan	Figure 2

EXHIBIT NO. 7
APPLICATION NO.
CC-061-04
CD-062-04

MEMORANDUM

OFFICE OF CITY ATTORNEY

TO: Alan Murphy
Senior Project Manager
URS Corporation

FROM: Claudia Culling
Senior Assistant City Attorney
General Counsel to the Airport Division

DATE: October 21, 2004

RE: Significance of the October 20, 2004, City Council Vote

You asked me to give you an indication of the import of the recent City Council vote on the LAX Master Plan. On October 20, 2004, the Los Angeles City Council voted 12-3 in support of the LAX Master Plan Program (Alternative D) and also overwhelmingly voted in support of the Master Plan on various other related matters.

In August, the Los Angeles County Airport Land Use Commission (LA-ALUC) reviewed the Master Plan with respect to the County's Comprehensive Land Use Plan (CLUP), which has not been updated since 1991, and found the Master Plan inconsistent with the CLUP. Under state law, the City Council can override that determination by a two-thirds vote of the City Council. However, to override, the state law requires Council to first vote to propose to overrule the LA-ALUC determination and then after 45 days, the City Council can then take its final vote to override. After Council takes that second vote (scheduled for December 7, 2004), it can then adopt the land use entitlements and the Master Plan itself.

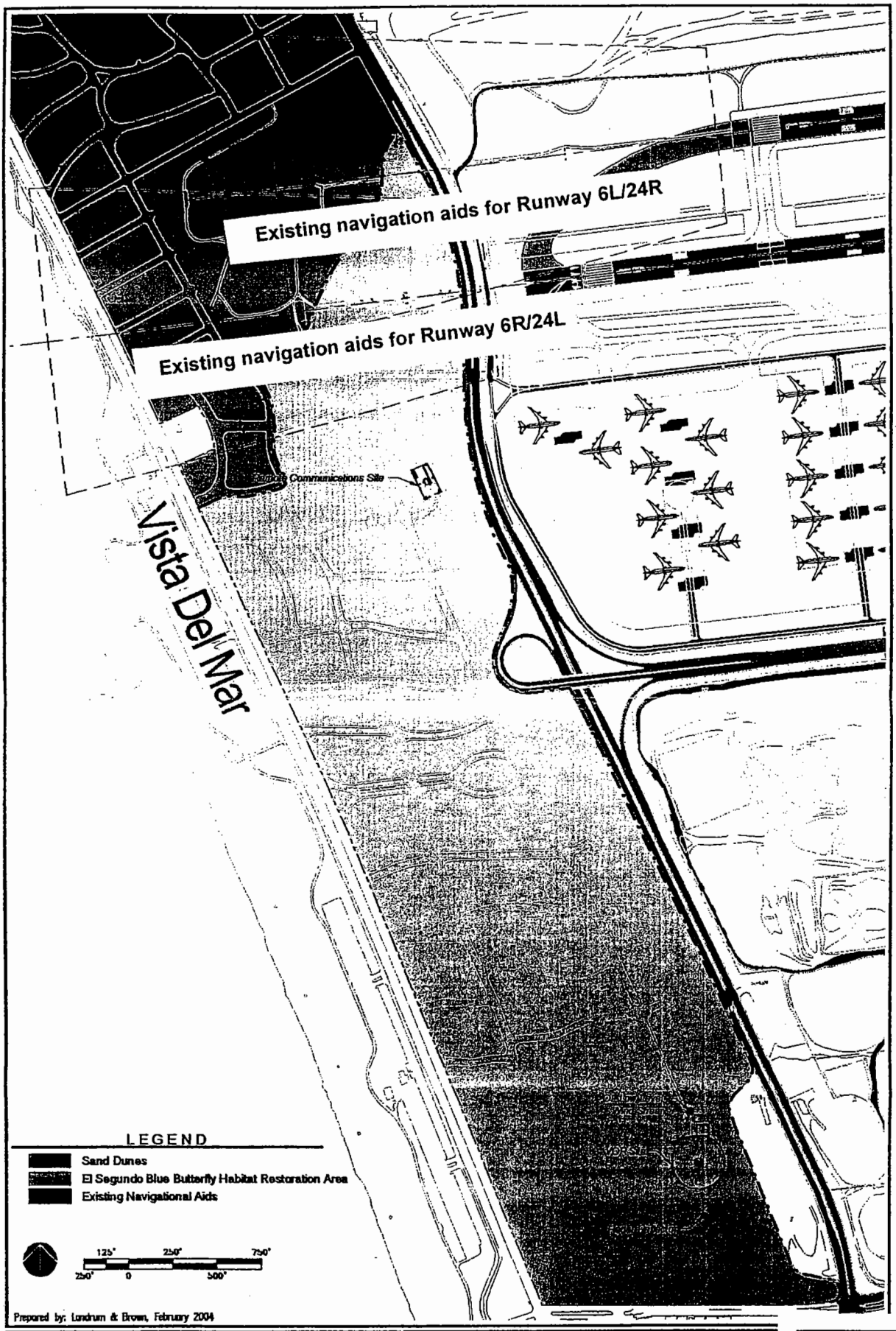
The Council vote on October 20, 2004, is very significant in several ways. First, there were two items before the Council that involved a final vote (not subject to the 45-day waiting period). These easily passed. They involved a denial of an appeal to the certification of the EIR and an action noting and filing a communication from the Los Angeles County Board of Supervisors requesting that Council not take the proposed actions on October 20. The logical implication of these final votes is that the Council intends to certify the EIR and also to act in a timely way on the other matters before it.

Furthermore, the overwhelming vote (more than would be required for any override of the LA-ALUC determination) appears to be a clear indication of the Council's intent to override the LA-ALUC determination and approve the LAX Master Plan on December 7, 2004.

If you have any further questions regarding this or any other matter, please feel free to contact me.

0.0
JAH

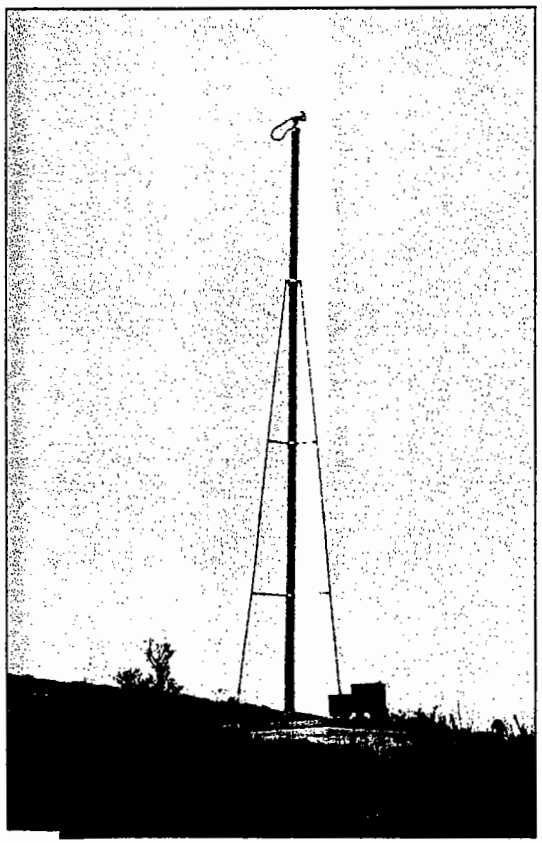
EXHIBIT NO. 8
APPLICATION NO.
CC-061-04
CD-062-04

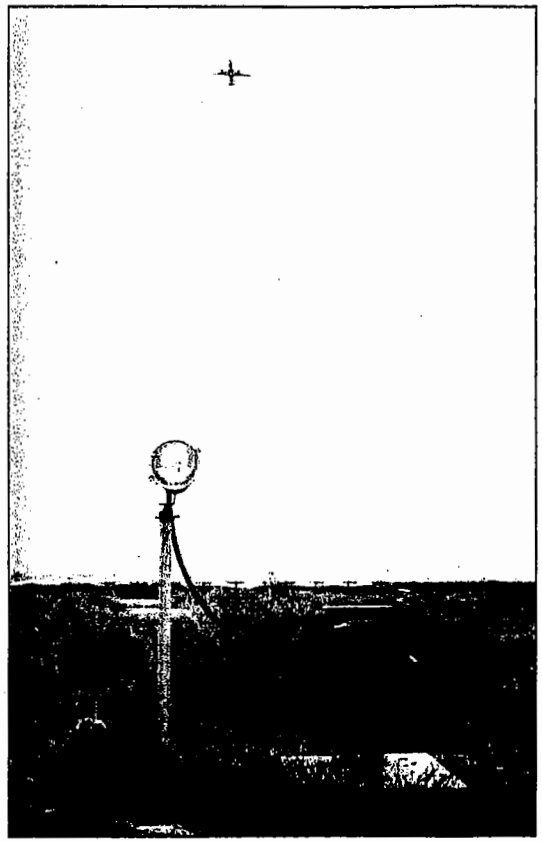


LAX Master Plan Final EIS/EIR	Existing Navigational Aids in the Los Angeles/El Segundo Dunes

EXHIBIT NO. 9
APPLICATION NO.
CC-061-04
CD-062-04

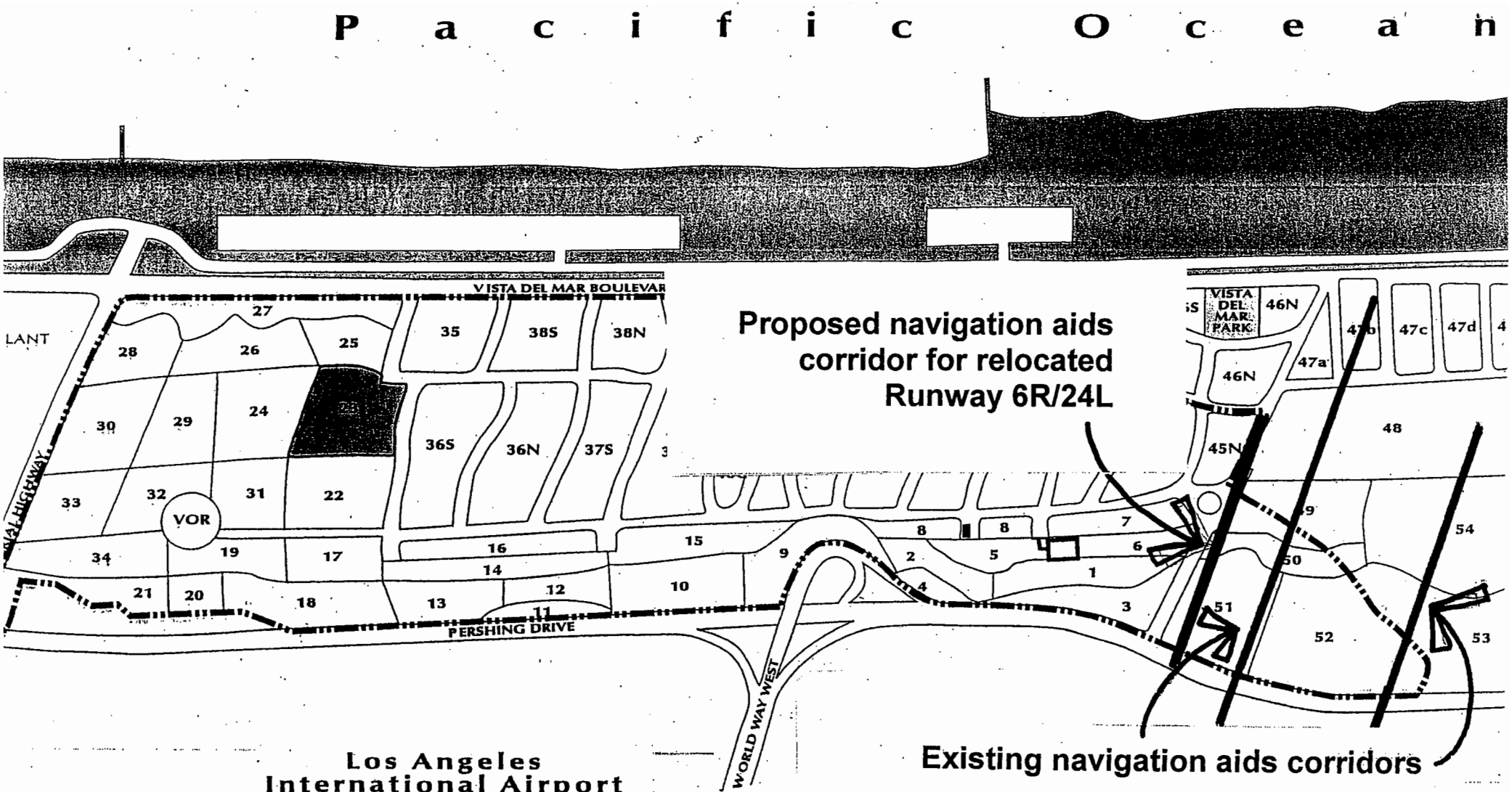
Fig04.cdr - Negretagd - 07/02/2004





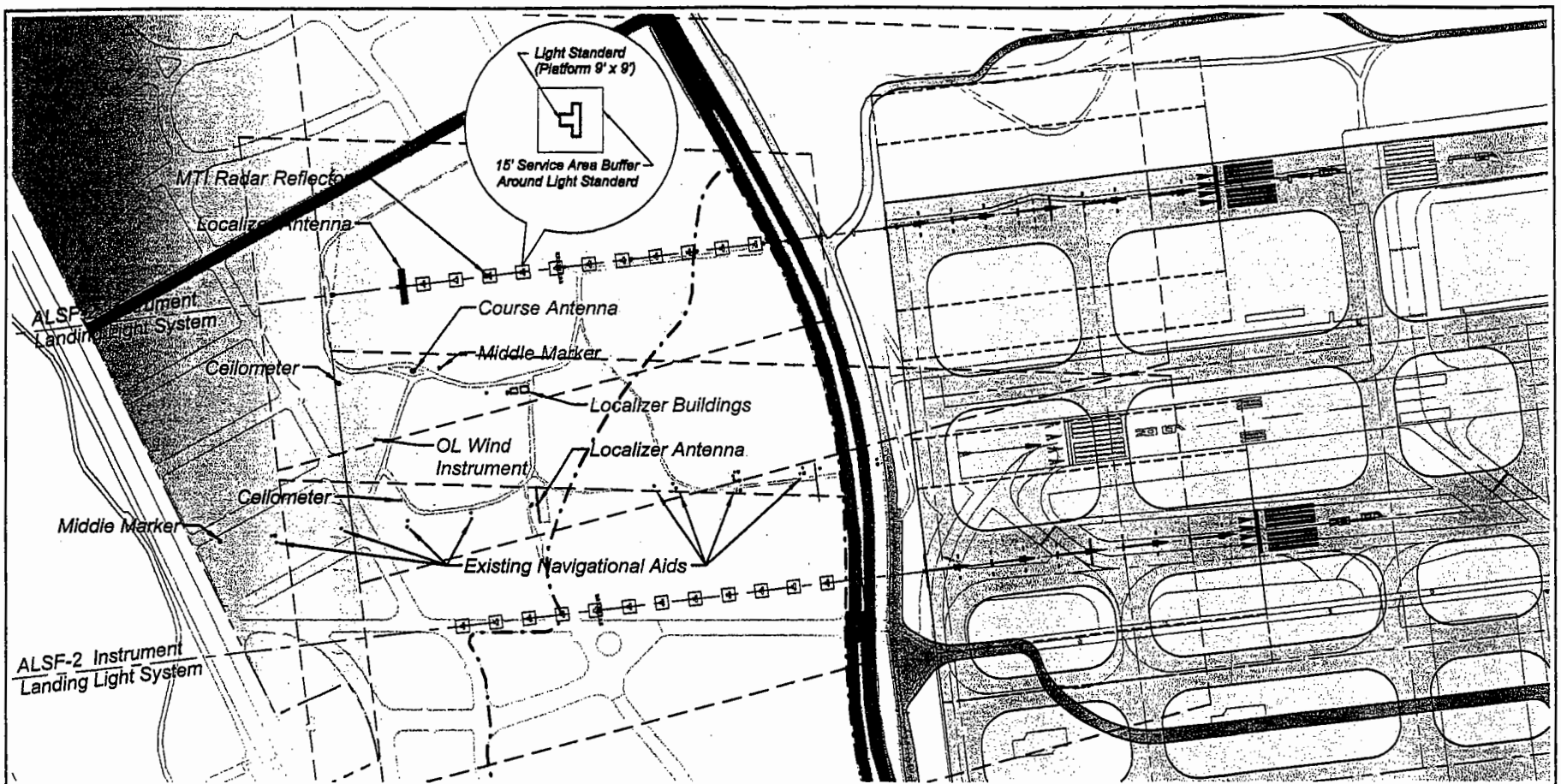
LAX Master Plan	Approach Lighting System (Flashing) Towers in the Los Angeles/El Segundo Dunes	Figure 4

EXHIBIT NO. 10
APPLICATION NO.
CC-061-04
CD-062-04



Source: Sapphos Environmental, 2000

EXHIBIT NO. 11
APPLICATION NO.
CC-061-04
CD-062-04



LEGEND

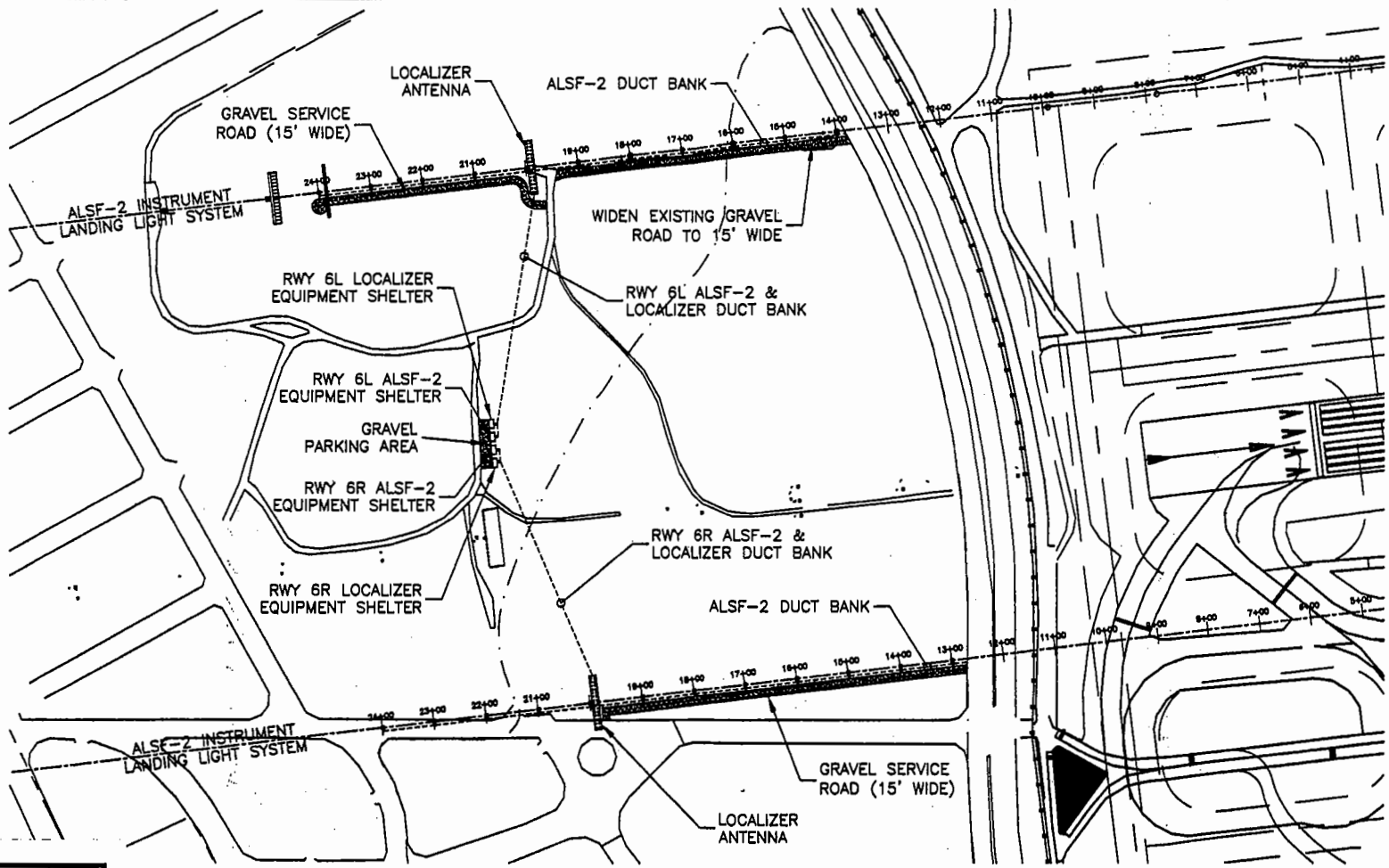
- Habitat Restoration Area Boundary
- Sand Dunes
- El Segundo Blue Butterfly Habitat Restoration Area
- Existing Roadways
- Proposed Navigational Aids
- Existing Navigational Aids to be removed
- Existing Navigational Aids to remain
- Airport Landside

75' 150' 300' 450'

2004

LAX Master Plan	Location of Proposed Navigational Aids Alternative D	Figure 3

EXHIBIT NO. 12
APPLICATION NO.
CC-061-04
CD-062-04

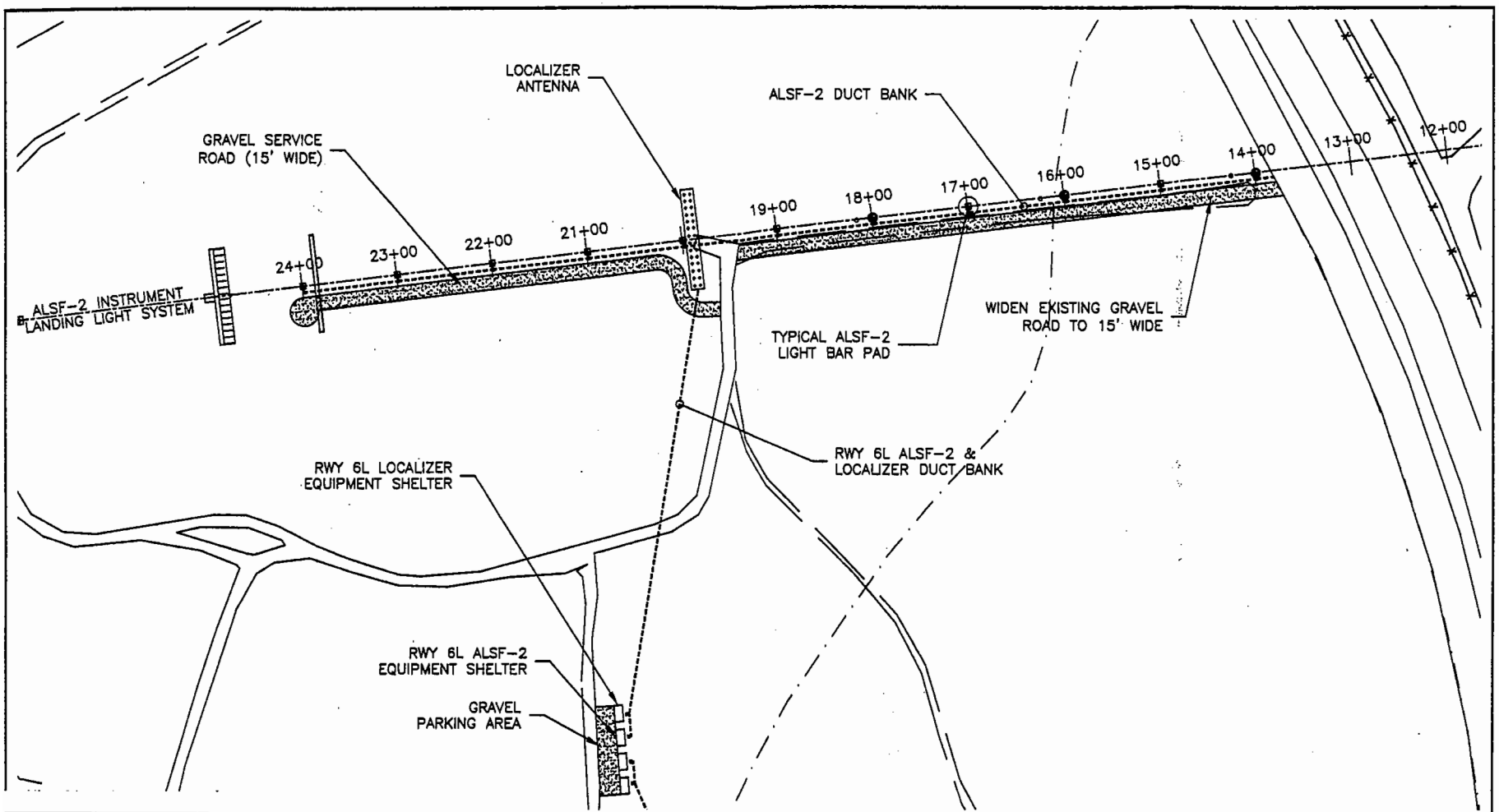


eles International Airport Master Plan

PROPOSED NAVIGATIONAL AIDS
NAVAID SITE PLAN

Figure
5

EXHIBIT NO. 13
APPLICATION NO.
CE-061-04
CD-062-04

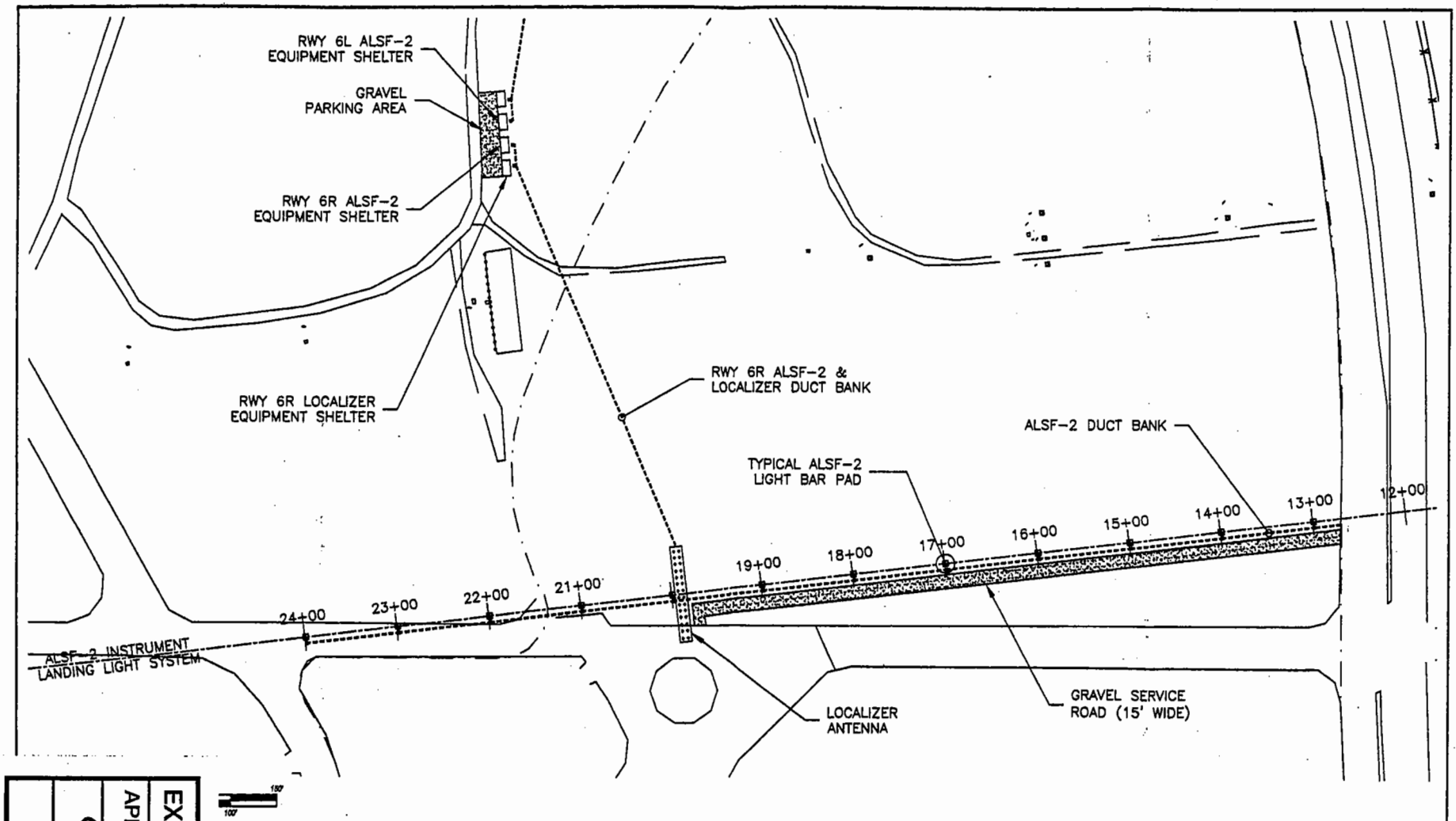


les International Airport Master Plan

PROPOSED NAVIGATIONAL AIDS
RUNWAY 6L ALSF-2

Figure 6

EXHIBIT NO. 14
APPLICATION NO. CC-061-04
CD-062-04

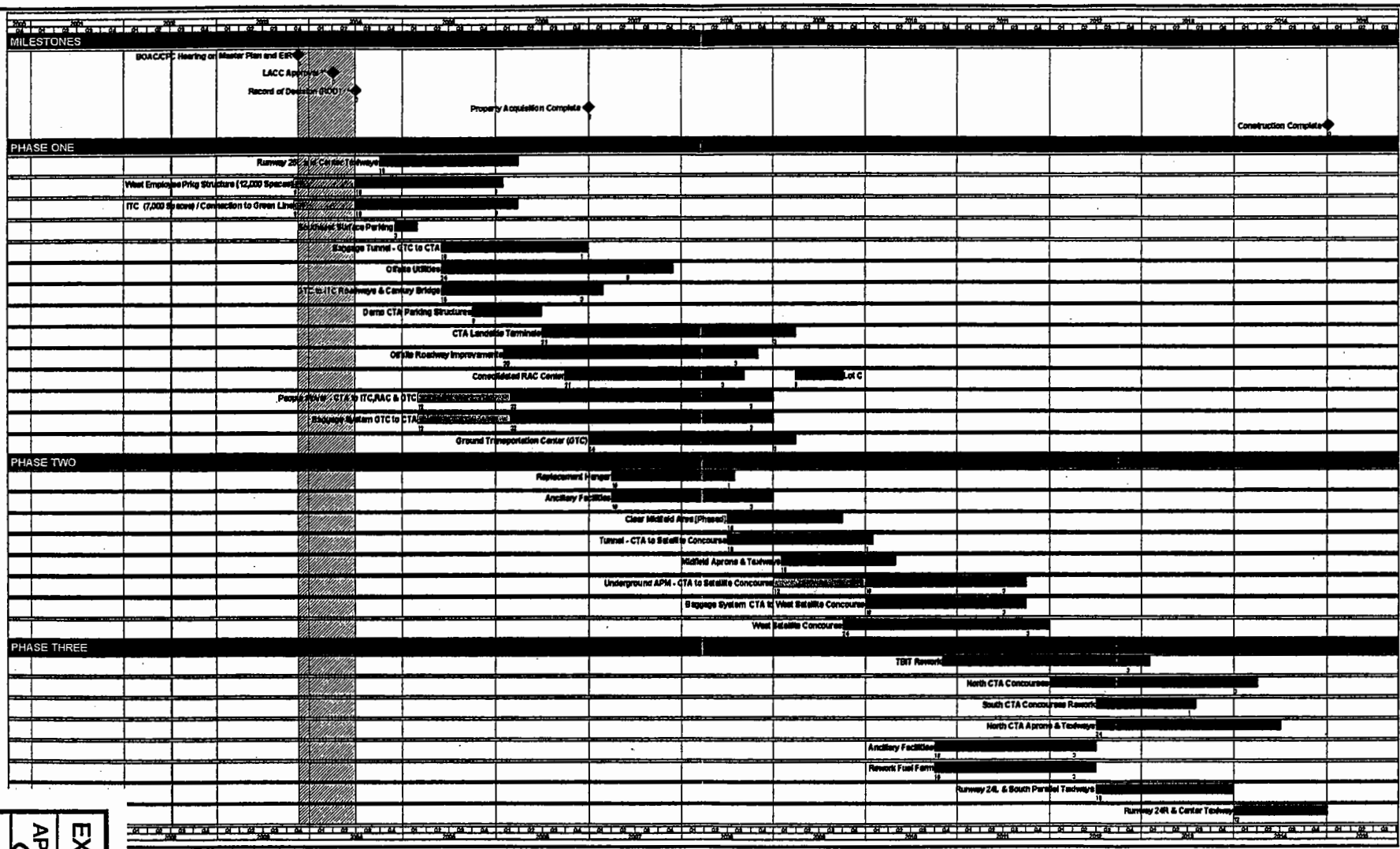


eles International Airport Master Plan

PROPOSED NAVIGATIONAL AIDS
RUNWAY 6R ALSF-2

Figure
7

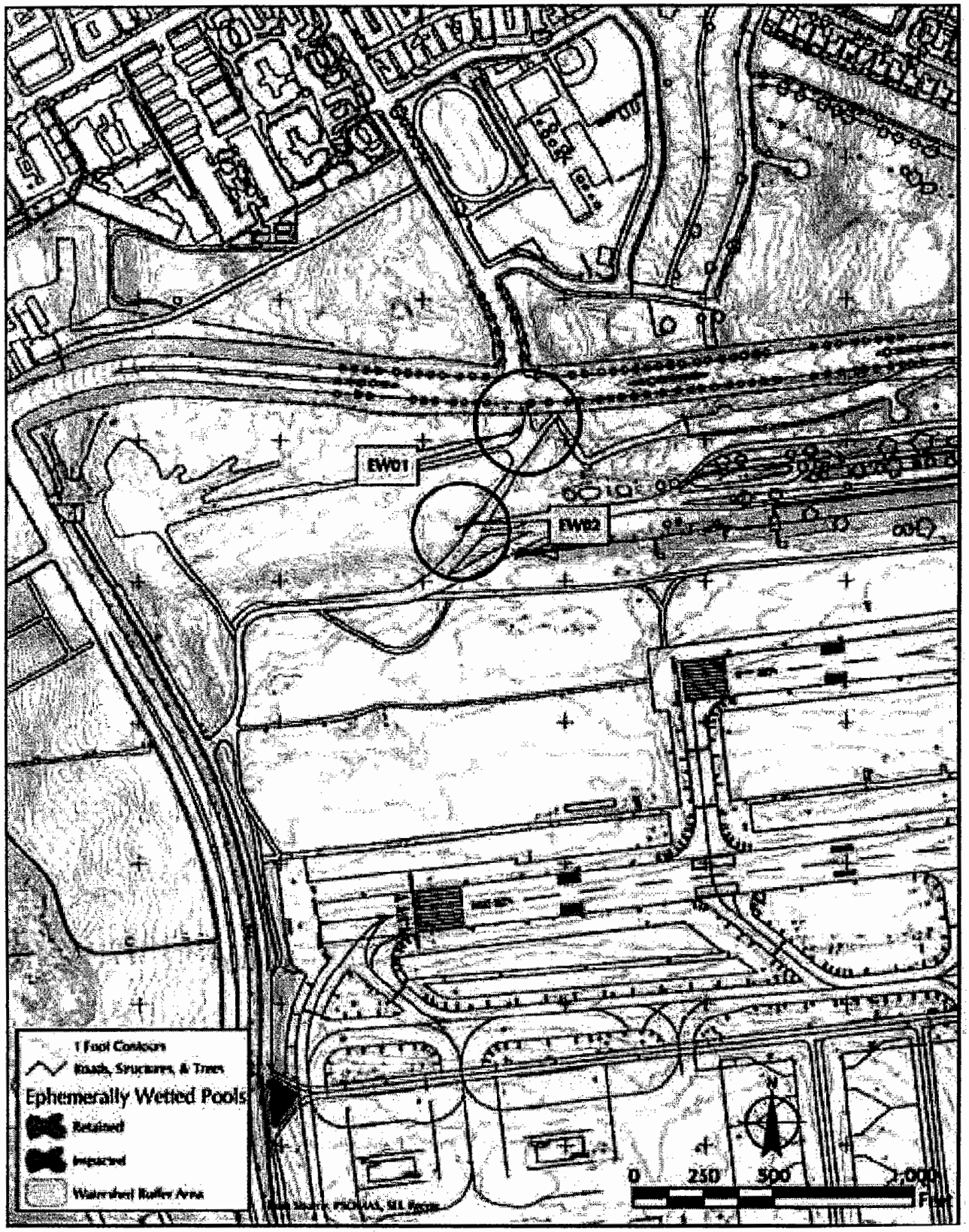
EXHIBIT NO. 15
APPLICATION NO. CC-06-04
CD-062-04



This schedule is intended to provide a general phasing plan and an estimate on construction durations - it is not intended to show precise event end/or construction dates and it is acknowledged that the initial schedule for late-2003 and early-2004 has been revised.

LAX Master Plan Final EIS/EIR	2015 Alternative D Conceptual Summary Schedule	Figure F3-20

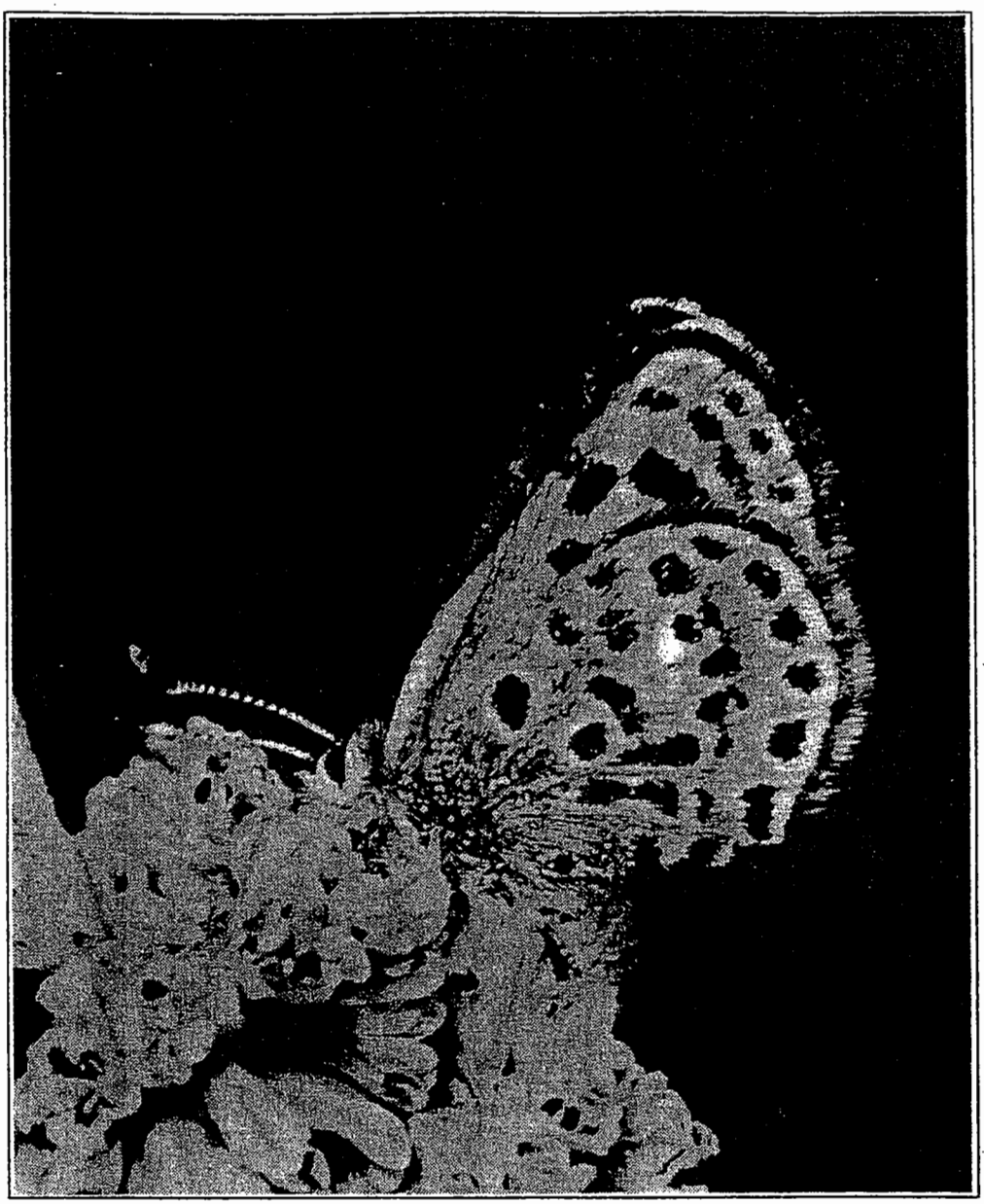
EXHIBIT NO. 16
APPLICATION NO. CC-06-04
CD-062-04



LAX Master Plan Final EIS/EIR

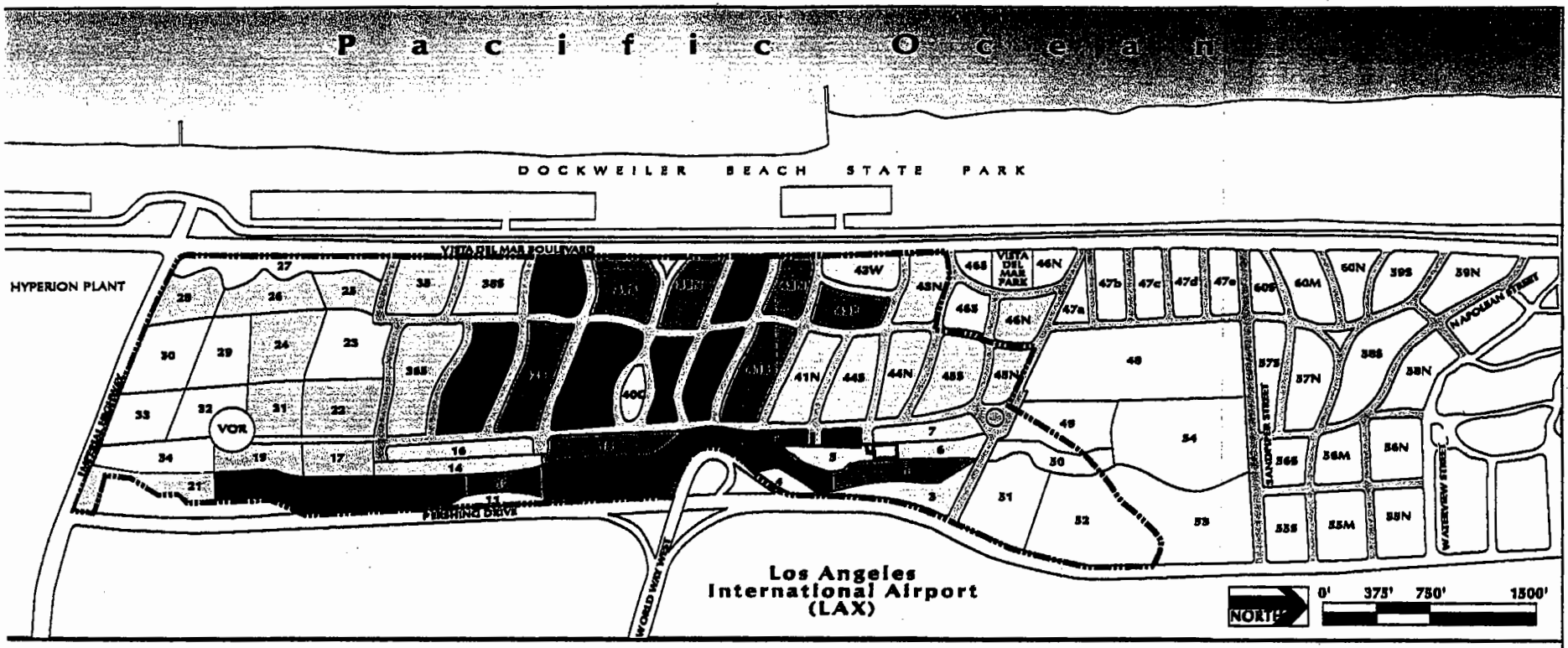
North Area Ephemerally Wetted Pools and Buffer Area

EXHIBIT NO. 17
APPLICATION NO.
CC-061-04
CD-062-04



SOURCE: Richard Arnold

Figure 2.2
The endangered El Segundo blue butterfly depends on host plant coastal buckwheat (*Eriogonum parvifolium*) for all stages of its life cycle



LEGEND

- Road System (Many Subsites Are Delineated by Road System)
- Habitat Restoration Area Boundary
- Subsite Number
- Remote Communications Site
- Very High Omni Range Navigation Beacon
- Trailer

- 0
- 1-50
- 51-100
- 101-150
- 151-200
- 201-250

- Street

LAX Master Plan Final EIS/EIR	1998 El Segundo Blue Butterfly Densities	Figure F4.11-6

EXHIBIT NO. 19
APPLICATION NO
CC-062-04
CD-062-04

Biotic Communities

- **MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area (Alternatives A, B, C, and D).**

  LAWA or its designee shall take all necessary steps to ensure that the state-designated sensitive habitats within and adjacent to the Habitat Restoration Area are conserved and protected during construction, operation, and maintenance. These steps shall, at a minimum, include the following:

  Implementation of construction avoidance measures in areas where construction or staging are adjacent to the Habitat Restoration Area. Prior to the initiation of construction of LAX Master Plan components to be located adjacent to the Habitat Restoration Area, LAWA or its designee shall conduct a pre-construction evaluation to identify and flag specific areas of state-designated sensitive habitats located within 100 feet of construction areas. Subsequent to the pre-construction evaluation, LAWA or its designee shall conduct a pre-construction meeting and provide written construction avoidance measures to be implemented in areas adjacent to state-designated sensitive habitats. Construction avoidance measures include erecting a 10-foot-high tarped chain-link fence where the construction or staging area is adjacent to state-designated sensitive habitats to reduce the transport of fugitive dust particles related to construction activities. Soil stabilization, watering, or other dust control measures, as feasible and appropriate, shall be implemented to reduce fugitive dust emissions during construction activities within 2,000 feet of the El Segundo Blue Butterfly Habitat Restoration Area, with a goal to reduce fugitive dust emissions by 90 to 95 percent. In addition, to the extent feasible, no grading or stockpiling for construction activities should take place within 100 feet of a state-designated sensitive habitat. LAWA or its designee shall incorporate provisions for the identification of additional construction avoidance measures to be implemented adjacent to state-designated sensitive areas. All construction avoidance measures that address Best Management Practices shall be clearly stated within construction bid documents. In addition, LAWA shall include a provision in all construction bid documents requiring the presence of a qualified environmental monitor. Construction drawings shall indicate vegetated areas within the Habitat Restoration Area as "Off-Limits Zone."

  Ongoing maintenance and management efforts for the El Segundo Blue Butterfly Habitat Restoration Area. LAWA or its designee shall ensure that maintenance and management efforts prescribed in the Habitat Management Plan (HMP) for the Habitat Restoration Area shall continue to be carried out as prescribed.

  Pre-Construction Surveys to determine presence/absence of California spineflower. Under Alternative A, only, pre-construction surveys will be undertaken during the optimum time of year to determine the presence/absence of individuals of California spineflower within the proposed area of impact within the Habitat Restoration Area. The California spineflower is known to be sparsely distributed in subsite 3 within the Habitat Restoration Area. Should the species be determined present, individuals will be salvaged and relocated to a suitable location within the Habitat Restoration Area. Prior to construction, LAWA or its designee shall develop and implement a relocation plan to avoid the potential loss of individuals from the installation of navigational aids and associated service roads. Relocation efforts shall be undertaken by a qualified biologist, in coordination with CDFG.

- **MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose (Alternatives A, B, C, and D).**

  LAWA or its designee shall prepare and implement a plan to compensate for the loss of individuals of the sensitive Lewis' evening primrose, currently located at the westerly end of the north runway and within the Habitat Restoration Area. LAWA or its designee shall collect seed from those plants to be removed, and properly clean and store the collected seed until used. If possible, seeds shall be collected in multiple years to ensure an adequate seed supply for planting. A mitigation site of suitable habitat equal to the area of impact shall be delineated within areas of the Los Angeles/El Segundo Dunes as described in MM-BC-10. Collected seed shall be broadcast (distributed) after the first wetting rain. LAWA or its designee shall implement a monitoring plan to monitor the establishment of individuals of Lewis' evening primrose for a period of not more than five years. Performance criteria shall include the establishment of an equal number of plants as that impacted in the first year following the distribution of seed within the mitigation site. Performance criteria shall also include confirmation of recruitment for two years following the first year flowering is observed and establishment of individuals throughout the mitigation area within three years following the first year flowering is observed. Monitoring shall be undertaken in the manner set forth in MM-BC-5.

EXHIBIT NO. 20
APPLICATION NO.
CC-061-04 CD-062-04

- **MM-BC-9. Conservation of Faunal Resources (Alternative D).**

LAWA or its designee shall develop and implement a relocation and monitoring plan to compensate for the loss of 1.34 habitat units (0.3 habitat units + 1.04 habitat units) of occupied western spadefoot toad habitat and for the loss of western spadefoot toad individuals currently in the southwestern portion of the AOA. LAWA or its designee shall identify possible relocation sites in consultation with the CDFG and USFWS and shall develop and implement a monitoring plan to monitor the success of the relocated tadpoles for a period of not more than five years. LAWA or its designee shall relocate the western spadefoot toad population currently inhabiting three locations on the AOA. One potential site is the Madrona Marsh Nature Center in Torrance, 20 miles south of LAX, which supports several vernal pools and one large pond capable of supporting western spadefoot toads.[1052] Spadefoot toad experts suggest the best approach to accomplish relocation is to transport tadpoles and metamorphs only, as adults return to their birth site.[1053] Site preparation shall include confirmation by a permitted biologist that no predators, such as mosquitofish or bullfrogs, are present within the proposed relocation site or in waterways surrounding the relocation site. The CDFG has suggested that if the first relocation effort is not successful, another attempt should be made the following year.[1054] Therefore, western spadefoot toads shall be collected two consecutive years prior to construction activities taking place in existing occupied spadefoot toad habitat. In addition, since the western spadefoot toad is known to become reproductively mature within three years, an additional performance criterion shall be the identification of tadpoles at the relocation site between years three and four. The success criteria should be 50 percent survival of all tadpoles and metamorphs for the first, second, and third years following the last relocation. This shall be accomplished through a five-year monitoring plan, with bi-monthly monitoring between January 31 and June 1, to document the success of this relocation effort.

LAWA or its designee shall develop and implement a relocation and monitoring plan to compensate for the loss of 2.38 habitat units of occupied San Diego black-tailed jackrabbit habitat located within the AOA. LAWA or its designee shall relocate the San Diego black-tailed jackrabbit population currently inhabiting the AOA. Relocation efforts shall be coordinated with CDFG. The San Diego black-tailed jackrabbit shall be captured on the AOA using live traps and shall be released into the Habitat Restoration Area. Compensation for the loss of 2.38 habitat units shall be the utilization of at least 2.38 habitat units within the Los Angeles/El Segundo Dunes by the San Diego black-tailed jackrabbit individuals relocated to the site. Black-tailed jackrabbit is currently absent for the Los Angeles/El Segundo Dunes. Opportunities for compensation for the loss of 2.38 habitat units include 13.52 habitat units from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Foredune; and 59.68 habitat units from restoration of Disturbed Dune Scrub/Foredune to Southern Foredune. LAWA or its designee shall implement a monitoring plan to monitor the success of the relocated individuals for a period of not more than five years. Performance criteria shall include confirmed success of survival for three years of the San Diego black-tailed jackrabbit within the Habitat Restoration Area. This shall be accomplished through a quarterly monitoring plan to document the success or failure of this relocation effort.

LAWA or its designee shall compensate for the loss of areas utilized by loggerhead shrike currently located on the western airfield and composed of 10.83 habitat units (equivalent to 83.25 acres). Compensation for the loss of 10.83 habitat units of habitat utilized by the loggerhead shrike shall be the utilization of at least 10.83 habitat units within the Los Angeles/El Segundo Dunes. Opportunities for compensation for the loss of 10.83 habitat units include 13.52 habitat units from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Foredune; and 59.68 habitat units from restoration of Disturbed Dune Scrub/Foredune to Southern Foredune. Compensation for the loss of at least 10.83 habitat units shall take place prior to construction. LAWA or its designee shall implement a monitoring program for a period of not more than five years. Performance criteria shall include the use of at least 10.83 habitat units of improved habitat by the loggerhead shrike for foraging and nesting. Monitoring shall take place quarterly for the first three years and biannually thereafter. Monitoring shall be timed appropriately to include monitoring during the breeding period, which is between February and June.

1052 Wright, Walt, Madrona Marsh Nature Center, Personal Communication, April 28, 1998.

1053 Fisher, Dr. Robert, California State University San Diego, Frank Hovore, Hovore and Associates, Dr. Steve Moray, U.S. Fish and Wildlife Service, Personal Communication, April 28, 1998.

1054 Maxwell, Dwayne, California Department of Fish and Game, Letter to Dr. Brad Blood, Sapphos Environmental, Inc., April 29, 1998.

EX. 20, CONT.

MM-BC-9. Conservation of Faunal Resources (Alternative D), continued.

As a means of minimizing incidental take of active nests of loggerhead shrike, LAWA or its designee shall have all areas to be graded surveyed by a qualified biologist at least 14 days before construction activities begin to ensure maximum avoidance to active nests for loggerhead shrike. Construction avoidance measures shall include flagging of all active nests for loggerhead shrike and a 300 feet wide buffer area shall be designated around the active nests. A biological monitor shall be present to ensure that the buffer area is not infringed upon during the active nesting season, March 15 to August 15. In addition, LAWA or its designee shall require that vegetation clearing within the designated 300 feet buffer be undertaken after August 15 and before March 15.

LAWA or its designee shall conduct pre-construction surveys to determine the presence of individuals of sensitive arthropod species, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl within the proposed area of impact within the Los Angeles/El Segundo Dunes. Surveys will be conducted at the optimum time to observe these species. Should an individual be observed, they will be relocated to suitable habitat for that species within the Habitat Restoration Area. Prior to construction, LAWA or its designee shall develop and implement a relocation plan to avoid the potential loss of individuals from the installation of navigational aids and associated service roads. Relocation efforts shall be undertaken by a qualified biologist, in coordination with CDFG.

- **MM-BC-13. Replacement of State-Designated Sensitive Habitat (Alternative D).**

LAWA or its designee shall undertake mitigation for the loss of State-designated sensitive habitat within the Los Angeles/El Segundo Dunes, including the Habitat Restoration Area. Installation of navigational aids and associated service roads under Alternative D would result in impacts to 66,675 square feet (1.53 acres) of State-designated sensitive habitat within the Los Angeles/El Segundo Dunes, including 33,334 square feet (0.77 acre) within the Habitat Restoration Area (of which 10,597 square feet (0.24 acre) are within habitat occupied by the El Segundo blue butterfly. These square feet shall be replaced at a no net loss ratio of 1:1 ratio within the Los Angeles/El Segundo Dunes. The replacement of 66,675 square feet (1.53 acres) of State-designated sensitive habitat shall be undertaken through restoration of 66,675 square feet (1.53 acres). Opportunities for restoration include: 16.9 acres of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 36.11 acres from removal and restoration of 50 percent of the existing roadways to Southern Foredune; and 74.6 acres of Disturbed Dune Scrub/Foredune to Southern Foredune. The restoration and enhancement of biotic communities as related to the establishment or enhancement of wildlife habitat shall consider and comply with the provisions of the FAA Advisory Circular 150/5200-33 regarding hazardous wildlife attractants on or near airports. Additionally, such restoration and enhancement shall take into account, as appropriate, the Memorandum of Agreement between FAA and other federal agencies, including the USFWS, pertaining to environmental conditions that could contribute to aircraft-wildlife strikes.

Valley Needlegrass Grassland restoration efforts consist of site preparation, propagation and planting of Valley Needlegrass Grassland species, and maintenance and monitoring of the restoration site as described in MM-BC-5, Replacement of Habitat Units (Alternative A).

Southern Foredune restoration efforts consist of site preparation, propagation, and planting of the species characteristic of the Southern Foredune community at the Los Angeles/El Segundo Dunes, and maintenance and monitoring of the restoration site as described in MM-BC-5, Replacement of Habitat Units (Alternative A).

Replacement of the 10,597 square feet (0.24 acre) of habitat occupied by the El Segundo blue butterfly shall be undertaken as described in MM-ET-4, El Segundo Blue Butterfly Conservation: Habitat Restoration (Alternative D).

EX. 20, CONT.

MM-ET-4. El Segundo Blue Butterfly Conservation: Habitat Restoration (Alternative D).

LAWA or its designee shall take all necessary steps to avoid the flight season of the El Segundo blue butterfly (June 14 - September 30) when undertaking installation of navigational aids and associated service roads proposed under Master Plan Alternative D within habitat occupied by the El Segundo blue butterfly. Installation of navigational aids within the Habitat Restoration Area should be required to take place between October 1st and May 31st. In conformance with the Biological Opinion, activities associated with navigational aid development shall be limited to the existing roads and proposed impacts areas as depicted in this Final EIS/EIR. Coast buckwheat shall be planted a minimum of three years prior to the impact, not only to allow for establishment of the plants, but also to ensure that the plants are mature enough to bloom.[1057] The plantings of coast buckwheat shall be located within the southwest corner of subsite 23 of the Habitat Restoration Area, as depicted in **Figure F5-5,** and shall encompass 1.25 acres in conformance with the Biological Opinion. Coast buckwheat plants will be planted at an initial density of 200 plants per acre to ensure the long-term planting density target (130 plants per acre). Coast buckwheat plants will be placed in clusters or groupings based on microtopographic features present within subsite 23 to better support the ESB, which is known to prefer large clusters of plants for nectaring and shelter. As possible, depending on the location and condition of individual plants, FAA and LAWA shall salvage existing coast buckwheat plants and any larvae on the plant or pupae in the soil below the plant that would be removed to accommodate the replacement navigational aids to further conserve this species. These plants shall be salvaged immediately prior to the installation of the replacement navigational aids outside of the butterfly flight season. These salvaged plants shall be transported in a suitable container and replanted after the onset of winter rains in subsite 23 near the area restored as described in MM-BC-13. This area shall be the designated mitigation site for planting coast buckwheat and the site to which El Segundo blue butterfly pupae shall be relocated. Gathering of coast buckwheat seed shall take place from September 15 through June 1. Propagation and planting methodologies successfully employed by LAWA during 1984 through 1994 restoration efforts shall be employed for propagation of additional coast buckwheat plants. An existing irrigation system proximal to subsite 23 will be used to increase the success of the restoration effort. Prior to navigational aid installation, a permitted and qualified biologist shall salvage El Segundo blue butterfly larvae in coordination with the USFWS in order to minimize impacts to the butterfly. Based on LAWA's restoration experience within the Habitat Restoration Area, occupation of restored habitat can occur within two to three years of restoration efforts. Therefore, there would be no net loss in acres or value of occupied habitat. Additionally, after the navigational aid system is in place and during the first subsequent flight season of the El Segundo blue butterfly, LAWA shall document El Segundo blue butterfly behavior with respect to the lighting system and submit a monitoring report to the USFWS.

Lastly, LAWA shall coordinate with the USFWS to create educational materials on the El Segundo blue butterfly for integration into LAWA's public outreach program.

1057 The time period of three years was determined from coast buckwheat restoration efforts previously undertaken by LAWA within the Habitat Restoration Area of the Los Angeles/El Segundo Dunes.

Source: LAX Master Plan Final EIS/EIR, April 2004

EX. 20, CONT.

Hydrology and Water Quality

- **HWQ-1. Conceptual Drainage Plan (Alternatives A, B, C, and D).**

Once a Master Plan alternative is selected, and in conjunction with its design, LAWA will develop a conceptual drainage plan of the area within the boundaries of the Master Plan alternative (in accordance with FAA guidance and to the satisfaction of the City of Los Angeles Department of Public Works, Bureau of Engineering). The purpose of the drainage plan will be to assess area-wide drainage flows as related to the Master Plan project area, at a level of detail sufficient to identify the overall improvements necessary to provide adequate drainage capacity to prevent flooding. The conceptual drainage plan will provide the basis and specifications by which detailed drainage improvement plans shall be designed in conjunction with site engineering specific to each Master Plan project. Best Management Practices (BMPs) will be incorporated to minimize the effect of airport operations on surface water quality and to prevent a net increase in pollutant loads to surface water resulting from the selected Master Plan alternative.

To evaluate drainage capacity, LAWA will use either the Peak Rate Method specified in Part G - Storm Drain Design of the City of Los Angeles' Bureau of Engineering Manual or the Los Angeles County Modified Rational Method, both of which are acceptable to the LADPW. In areas within the boundary of the selected alternative where the surface water runoff rates are found to exceed the capacity of the storm water conveyance infrastructure with the potential to cause flooding, LAWA will take measures to either reduce peak flow rates or increase the structure's capacity. These drainage facilities will be designed to ensure that they adequately convey storm water runoff and prevent flooding by adhering to the procedures set forth by the Peak Rate Method/Los Angeles County Modified Rational Method. Methods to reduce the peak flow of surface water runoff could include:

- Decreasing impervious area by removing unnecessary pavement or utilizing porous concrete or modular pavement.
- Building storm water detention structures.
- Diverting runoff to pervious areas (reducing directly-connected impervious areas).
- Diverting runoff to outfalls with additional capacity (reducing the total drainage area for an individual outfall).
- Redirecting storm water flows to increase the time of concentration.

Measures to increase drainage capacity could include:

- Increasing the size and slope (capacity) of storm water conveyance structures (pipes, culverts, channels, etc.).
- Increasing the number of storm water conveyance structures and/or outfalls.

To evaluate the effect of the selected Master Plan alternative on surface water quality, LAWA will prepare a specific Standard Urban Stormwater Mitigation Plan (SUSMP) for the selected alternative, as required by the LARWQCB. The SUSMP addresses water quality and drainage issues by specifying source control, structural, and treatment control BMPs with the objective of reducing the discharge of pollutants from the storm water conveyance system to the maximum extent practicable. Once BMPs are identified, an updated pollutant load estimate will be calculated that takes into account reductions from treatment control BMPs. These BMPs will be applied to both existing and future sources with the goal of achieving no net increase in loadings of pollutants of concern to receiving water bodies. LAWA will therefore address water quality issues, including erosion and sedimentation, and comply with the SUSMP requirements by designing the storm water system through incorporation of the structural and treatment control BMPs specified in the SUSMP.

The following list includes some of the BMPs that could be employed to infiltrate or treat storm water runoff and dry weather flows, and control peak flow rates:

- Vegetated swales and strips
- Oil/Water separators
- Clarifiers
- Media filtration
- Catch basin inserts and screens
- Continuous flow deflective systems
- Bioretention and infiltration
- Detention basins
- Manufactured treatment units
- Hydrodynamic devices

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Other structural BMPs may also be selected from the literature and the many federal, state and local guidance documents available. It should be noted that, if an alternative is selected that involves the elimination of the Imperial water quality retention basin (Alternatives A, B, and C), an alternative retention and/or water quality treatment BMP will be provided as per SUSMP requirements.

Performance of structural BMPs varies considerably based on their design.[1035] USEPA has published estimated ranges of pollutant removal efficiencies for structural BMPs based on substantial document review. These ranges of removal efficiencies are presented in **Table F5-1**, Structural BMP Expected Pollutant Removal Efficiency.

Table F5-1

Structural BMP Expected Pollutant Removal Efficiency

BMP Type	Typical Pollutant Removal (percent)			
	Suspended Solids	Nitrogen	Phosphorus	Metals
Dry Detention Basins	30-35	15-45	15-45	15-45
Retention Basins	50-80	30-65	30-65	50-80
Infiltration Basins	50-80	50-80	50-80	50-80
Infiltration Trenches/Dry Wells	50-80	50-80	15-45	50-80
Porous Pavement	65-100	65-100	30-65	65-100
Grassed Swales	30-65	15-45	15-45	15-45
Vegetated Filter Strips	50-80	50-80	50-80	30-65
Surface Sand Filters	50-80	<30	50-80	50-80
Other Media Filters	65-100	15-45	0	50-80

Source: U.S. Environmental Protection Agency, Preliminary Data Summary of Urban Storm Water Best Management Practices Methodology, August 1999.

In addition to the structural BMP types that will be used, non-structural/source control BMPs will continue to be a part of the LAX program to reduce pollutant loadings. Existing practices and potentially new ones will be extended to acquisition areas and to the areas where airport operations will increase in frequency or duration. These source control BMPs will be incorporated into the LAX Storm Water Pollution Prevention Plan (SWPPP) and will consequently be required of LAWA and all airport tenants at all locations where industrial activities occur that have the potential to impact water quality.

The overall result of Master Plan Commitment HWQ-1 will be a drainage infrastructure that provides adequate drainage capacity to prevent flooding and control peak flow discharges, that incorporates BMPs to minimize the effect of airport operations on surface water quality, and that prevents a net increase of pollutant loads to either receiving water body as a result of the selected Master Plan alternative.

[1035] U.S. Environmental Protection Agency, Preliminary Data Summary of Urban Stormwater Best Management Practices Methodology, August 1999.

Source: LAX Master Plan Final EIS/EIR, April 2004

EX. 21, CONT.

Comments On the Hydrology and Water Quality Components Of The LAX Master Plan Improvements Draft EIS/EIR

1. Los Angeles World Airports (LAWA) is committed to developing a detailed drainage plan (HWQ-1) upon the selection of a final build alternative. They believe that with the implementation of HWQ-1, any hydrology and water quality associated impacts would be less than significant. It is, however, very difficult to assess the future success of such a plan without having the opportunity to examine it first. The CCC believes that the drainage plan should be made public for review prior to implementation.

2. LAWA fails to propose specific potential management measures and practices to be implemented for each of the build alternatives. At a minimum, a conceptual design with minimum mitigation measures should be developed for each build alternative at this time. This is made feasible by the fact that the three build alternatives are really very similar in nature. CCC believes that the potential hydrology and water quality impacts associated with the build alternatives and the proposed mitigation measures should be an integral part of the build alternative selection process.

3. Besides the narrative stormwater BMP design standards customary in NPDES permits, the CCC believes that here exists a perfect opportunity for LAWA to take more meaningful and quantifiable measures to address the runoff issues and their associated impacts. The LA Regional Water Quality Control Board has recently taken steps to require numerical BMP design standards in its Standard Urban Storm Water Mitigation Plan (SUSMP). However, these standards only apply to a few categories of new and re-developments, of which airport is not one. Nevertheless, due to the scale of the proposed development and the significant impacts associated with the runoff as a result of the intensified uses, establishing specific design criteria such as the 85th percentile, 24-hour design storm standard is reasonable. Specifically, for design purposes, post-construction structural BMPs (or suites of BMPs) should be designed to treat, infiltrate or filter stormwater runoff from each storm event, up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event, with an appropriate safety factor, for flow-based BMPs. For LAX, this means treating runoff associated with up to and including 0.75 inch of rainfall in 24 hours or 0.2 inch per hour.
While it is commendable that LAWA has aimed for "reducing impacts to water quality to the maximum extent practicable and achieving no net gain in pollutant loads discharged to receiving water bodies," there exist no practical and feasible guiding principles for designing management practices. Furthermore, the goal of "no net gain" is merely to hold steady the current level of pollutant contributions by LAX to the Santa Monica Bay and Dominguez Channel. It then begs the question of whether or not the current level is good enough for safeguarding the quality of the receiving waters. Judging from the information provided, LAX's current stormwater measures seem inadequate to satisfactorily treat the runoff generated onsite.

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Since both of the receiving water bodies are on the CWA Section 303(d) list for impairment by several pollutants of concern of which LAX is a contributor (e.g., Cu, Pb, and Zn), it is conceivable that the future Total Maximum Daily Loads (TMDLs) developed for these pollutants would require LAX to share in the necessary load reductions. It simply is sensible to anticipate those future needs by incorporating the necessary stormwater designs during the current phase of development when opportunities abound. It may be worth pointing out that LAWA already acknowledges "[d]ue to the relatively large area that would be redeveloped, substantial opportunities would exist to replace existing facilities with ones that incorporate water quality control BMPs into their design, construction and operations thereby reducing total LAX-related pollutant loads."

4. It is not clear whether or not baseline information for the various pollutant loadings has been established. Pollutant loads used in the analysis were calculated by multiplying the pollutants' Event Mean Concentrations (EMCs) and average annual runoff. And, these EMCs were obtained from various sources not necessarily specific to the region (e.g., Federal Highway Administration) or most up-to-date. Pollutant loads could have been underestimated as a result. In addition, without locally relevant data for determining baseline levels, it will be impossible in the future to determine whether the goal of "no net gain" is being attained.
   Lastly, using LAWA's method where EMCs remain constant, the only variable in the formula for calculating pollutant loads before and after development would be land use (i.e., the change in impervious area coverage). This will most likely result in underestimates of pollutant loads because it ignores the potential increase in pollutant contributions due to the intensification of various activities at LAX. Stormwater BMPs designed using these projections may then fall short of intended treatment efficacy.

5. Only nine pollutants are considered in the DEIR. Several pollutants, including cadmium, mercury, nickel, silver, chromium, PAHs, and PCBs, scheduled for TMDL development for the Santa Monica Bay and Dominguez Channel have been prematurely eliminated from the study. The DEIR provides no valid reasons for their exclusion. The CCC strongly urges baseline information on the omitted pollutants be established and a rigorous monitoring program be implemented to determine the exact LAX contribution of these pollutants to the downstream water bodies.

6. The planned parking capacity for each of the build alternatives would exceed demand for both 2005 and 2015 by about 6,800 stalls and 3,800 stalls, respectively. This is meant to reduce the number of double trips by people recirculating on the terminal service loop due to Central Terminal Area congestion or by not being able to find parking spaces. While this sounds like a good idea, the concern with these additional spaces are the potential increase in impervious areas. Are these additional stalls located in (existing) vertical structures or are they horizontal ground spaces built on formerly pervious areas? One of the most effective practices to reducing runoff and its associated pollutants is minimizing the creation of impervious areas in the first place. There needs to be a balanced analysis between traffic relief and water quality

EX. 22, CONT.

impacts. If these extra stalls are critical to ensuring traffic relief, active measures should be undertaken to minimize any negative runoff impacts associated with the increase in impervious areas. Examples of these measures include, but are not limited to, retention and/or detention basins, catch basin filters and underground sand filters.

7. CCC strongly encourages LAWA to, wherever appropriate, design water quality components into LAX's flood control measures. While it is important to ensure that drainage facilities can adequately convey stormwater runoff and prevent flooding, increasing the structure's capacity is often less effective than reducing peak flow rates. As mentioned in the DEIR, reducing peak flow rates could be achieved, for example, by reducing the directly connected impervious areas. Taking this one step further, peak flow rates could be reduced by minimizing overall impervious areas, period, or by creating pervious areas such as filtering strips and/or grassy swales to intercept flows.

8. While the pollutant loads associated with wet weather flows were estimated quantitatively, those associated with the dry weather flows were only addressed qualitatively. The reason given was that "[s]ince, the types of pollutants in dry weather flows are governed by the source of the flow and, therefore, are extremely variable and cannot be quantified, the analysis of dry weather flows is limited to the identification of factors that are likely to increase or decrease their occurrence." Were there no past sampling results or chemical use records to assist in the quantification? There needs to be a better effort in quantifying pollutant loading as a result of dry weather flows.
   LAWA acknowledges that there will be an overall intensification of use at LAX under all three build alternatives. In addition, the DEIR states, "the Imperial retention basin would be removed and dry weather flows entering the storm drain system would have the potential to discharge untreated to the Santa Monica Bay or Dominguez Channel water bodies." The only mitigation measures proposed are compliance with existing regulations and airport procedures, particularly the LAX SWPPP, and incorporation of some unspecified source control, structural and treatment BMPs under HWQ-1. Unfortunately, these may not be adequate. The SWPPP developed pursuant to the Industrial Activities Storm Water General Permit (Industrial NPDES Permit) is often only required to be available onsite and ready for inspection by the appropriate authorities when requested, but not required as a part of the permit application process. In other words, the SWPPP is often not evaluated for adequacy. LAWA is strongly urged to propose clear measures to prevent and control dry weather runoff. This could be accomplished by allowing public review of the SWPPP. In light of their smaller quantities, diversion of dry weather runoffs for treatment (or treatment onsite) should be considered.

9. The DEIR fails to analyze a more comprehensive list of BMPs that could be implemented during the construction phase. It simply states that by following the procedures outlined in the SWPPP, prepared pursuant to the construction NPDES permit, and employing the eight BMPs listed in the DEIR, impacts to water quality associated with construction activities would be less than significant. For the same

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reason stated above for industrial NPDES permit, SWPPP developed according to the requirements of a construction permit is often not subject to agency/public review and cannot guarantee water quality protection. In addition, the eight BMPs listed in the DEIR fail to address, among others, the timing of land disturbance and chemical use and storage.

10. There is very little mention of BMP inspection, monitoring, and maintenance. Besides inappropriate and inadequate designs, BMPs often fail because they are not being properly maintained. A rigorous program needs to be in place to ensure that the BMPs continue to operate at their design capacities in preventing and controlling polluted runoff. It is also imperative to identify BMP inadequacies in terms of type, size, location, and number. Structural BMPs should be inspected prior to the start of the rainy season (no later than October 15th), after the first storm of the rainy season, and monthly thereafter until April 30th. Major observations to be made during inspections include:
    - Locations of discharges of pollutants from the site;
    - BMPs that are in need of maintenance;
    - BMPs that are not performing, failing to operate, or inadequate; and
    - Locations where additional BMPs are needed.

11. While it is important to have structural and/or treatment stormwater BMPs, the CCC strongly encourages the implementation of nonstructural BMPs for source control as well. These include, among others, personnel training for good housekeeping measures.

EX. 22, CONT.

- **MM-HA-4. Discovery (Alternatives A, B, C, and D).**

  The FAA shall prepare an archaeological treatment plan (ATP), in consultation with SHPO, that ensures the long-term protection and proper treatment of those unexpected archaeological discoveries of federal, state, and/or local significance found within the APE of the selected alternative. The ATP shall include a monitoring plan, research design, and data recovery plan. The ATP shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation;[1042] California Office of Historic Preservation's (OHP) *Archaeological Resources Management Report*, Recommended Contents and Format (1989), and the *Guidelines for Archaeological Research Design* (1991); and shall also take into account the ACHP's publication *Treatment of Archaeological Properties: A Handbook*. The ATP shall also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA. In addition, those steps outlined in Section 21083.2(i) of CEQA and Section 15064.5(f) of the CEQA Guidelines shall be implemented, as necessary.

- **MM-HA-5. Monitoring (Alternatives A, B, C, and D).**

  Any grading and excavation activities within LAX proper or the acquisition areas that have not been identified as containing redeposited fill material or as having been previously disturbed shall be monitored by a qualified archaeologist. The archaeologist shall be retained by LAWA and shall meet the Secretary of the Interior's Professional Qualifications Standards.[1043] The project archaeologist shall be empowered to halt construction activities in the immediate area if potentially significant resources are identified. Test excavations may be necessary to reveal whether such findings are significant or insignificant. In the event of notification by the project archaeologist that a potentially significant or unique archaeological/cultural find has been unearthed, LAWA shall be notified and grading operations shall cease immediately in the affected area until the geographic extent and scientific value of the resource can be reasonably verified. Upon discovery of an archaeological resource or Native American remains, LAWA shall retain a Native American monitor from a list of suitable candidates obtained from the Native American Heritage Commission.

- **MM-HA-6. Excavation and Recovery (Alternatives A, B, C, and D).**

  Any excavation and recovery of identified resources (features) shall be performed using standard archaeological techniques and the requirements stipulated in the ATP. Any excavations, testing, and/or recovery of resources shall be conducted by a qualified[1044] archaeologist selected by LAWA.

- **MM-HA-7. Administration (Alternatives A, B, C, and D).**

  Where known resources are present, all grading and construction plans shall be clearly imprinted with all of the archaeological/cultural mitigation measures. All site workers shall be informed in writing by the on-site archaeologist of the restrictions regarding disturbance and removal as well as procedures to follow should a resource deposit be detected.

- **MM-HA-8. Archaeological/Cultural Monitor Report (Alternatives A, B, C, and D).**

  Upon completion of grading and excavation activities in the vicinity of known archaeological resources, the Archaeological/Cultural monitor shall prepare a written report. The report shall include the results of the fieldwork and all appropriate laboratory and analytical studies that were performed in conjunction with the excavation. The report shall be submitted in draft form to the FAA, LAWA, and City of Los Angeles-Cultural Affairs Department. City representatives shall have 30 days to comment on the report. All comments and concerns shall be addressed in a final report issued within 30 days of receipt of city comments.

- **MM-HA-9. Artifact Curation (Alternatives A, B, C, and D).**

  All artifacts, notes, photographs, and other project-related materials recovered during the monitoring program shall be curated at a facility meeting federal and state standards.

- **MM-HA-10. Archaeological Notification (Alternatives A, B, C, and D).**

  If human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified; compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, those steps outlined in Section 15064.5(e) of the CEQA Guidelines shall be implemented.

1042 48 FR 44634-37.

1043 48 FR 22716, September 1983.

1044 The Secretary of the Interior's Professional Qualifications Standards (48 FR 22716, September 1983).

Source: LAX Master Plan Final EIS/EIR, April 2004

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- **MM-PA-1. Paleontological Qualification and Treatment Plan (Alternatives A, B, C, and D).**

  A qualified paleontologist shall be retained by LAWA to develop an acceptable monitoring and fossil remains treatment plan (that is, a Paleontological Management Treatment Plan - PMTP) for construction-related activities that could disturb potential unique paleontological resources within the project area. This plan shall be implemented and enforced by the project proponent during the initial phase and full phase of construction development. The selection of the paleontologist and the development of the monitoring and treatment plan shall be subject to approval by the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County to comply with paleontological requirements, as appropriate.

- **MM-PA-2. Paleontological Authorization (Alternatives A, B, C, and D).**

  The paleontologist shall be authorized by LAWA to halt, temporarily divert, or redirect grading in the area of an exposed fossil to facilitate evaluation and, if necessary, salvage. No known or discovered fossils shall be destroyed without the written consent of the project paleontologist.

- **MM-PA-3. Paleontological Monitoring Specifications (Alternatives A, B, C, and D).**

  Specifications for paleontological monitoring shall be included in construction contracts for all LAX projects involving excavation activities deeper than six feet.

- **MM-PA-4. Paleontological Resources Collection (Alternatives A, B, C, and D).**

  Because some fossils are small, it will be necessary to collect sediment samples of promising horizons discovered during grading or excavation monitoring for processing through fine mesh screens. Once the samples have been screened, they shall be examined microscopically for small fossils.

- **MM-PA-5. Fossil Preparation (Alternatives A, B, C, and D).**

  Fossils shall be prepared to the point of identification and catalogued before they are donated to their final repository.

- **MM-PA-6. Fossil Donation (Alternatives A, B, C, and D).**

  All fossils collected shall be donated to a public, nonprofit institution with a research interest in the materials, such as the Los Angeles County Museum of Natural History.

- **MM-PA-7. Paleontological Reporting (Alternatives A, B, C, and D).**

  A report detailing the results of these efforts, listing the fossils collected, and naming the repository shall be submitted to the lead agency at the completion of the project.

Source: LAX Master Plan Final EIS/EIR, April 2004

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CD-062-04

STATE OF CALIFORNIA—THE RESOURCES AGENCY

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

November 18, 2004

David Kessler, AICP
Acting Supervisor, Planning Section
Environmental Protection Specialist
Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009-2007

Subject: Consistency Determination CD-062-04 (Relocation of navigation aids at Los Angeles International Airport)

Dear Mr. Kessler:

On November 17, 2004, the California Coastal Commission concurred with the above-referenced consistency determination. The Commission found that the proposed relocation of navigation aids at Los Angeles International Airport was consistent with the California Coastal Management Program.

Sincerely,

LARRY Simon

Larry Simon
Federal Consistency Coordinator

cc: South Coast District Office
California Department of Water Resources
Governor's Washington, D.C., Office
Jim Ritchie, Los Angeles World Airports